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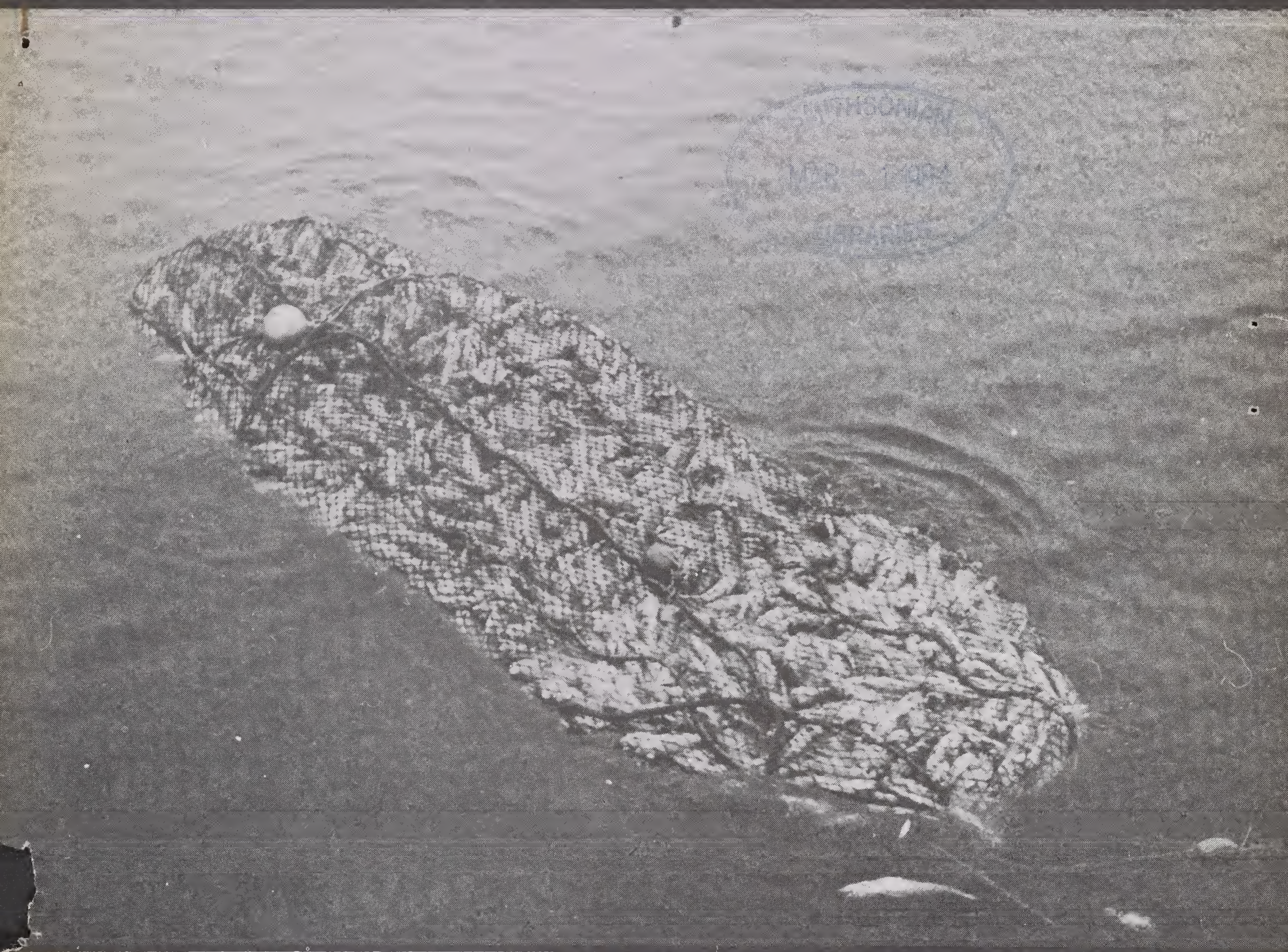
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COMMERCIAL FISHERIES REVIEW



A REVIEW OF DEVELOPMENTS AND NEWS OF THE FISHERY INDUSTRIES
PREPARED IN THE BRANCH OF COMMERCIAL FISHERIES

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DEEP-WATER TRAWLING SURVEY OFF THE COAST OF WASHINGTON (AUGUST 27 - OCTOBER 19, 1951)

By Dayton L. Alverson*

INTRODUCTION

The first in a planned series of exploratory fishing cruises intended to ascertain the bottom-fish varieties available and the commercial possibilities of otter trawling in the deeper ocean waters of the Pacific Northwest, beyond the present range of the region's trawl fishery, was made in the late summer and fall of this year by the U. S. Fish and Wildlife Service's exploratory fishing vessel John N. Cobb. Exploratory fishing was conducted off the Washington coast between latitudes $47^{\circ}40'$ N. and $48^{\circ}40'$ N., and extending 55 miles seaward. Roughly, the area covered is between Destruction Island and the northern portion of Swiftsure Bank (see figure 2). The vessel left Seattle on August 27 and returned on October 19, 1951. During the eight weeks of operations, 61 drags were made at depths ranging from 80 to 530 fathoms. Biologists from the Washington State Department of Fisheries and the University of Washington participated in the collection of data and also tagged some of the fish which were taken.

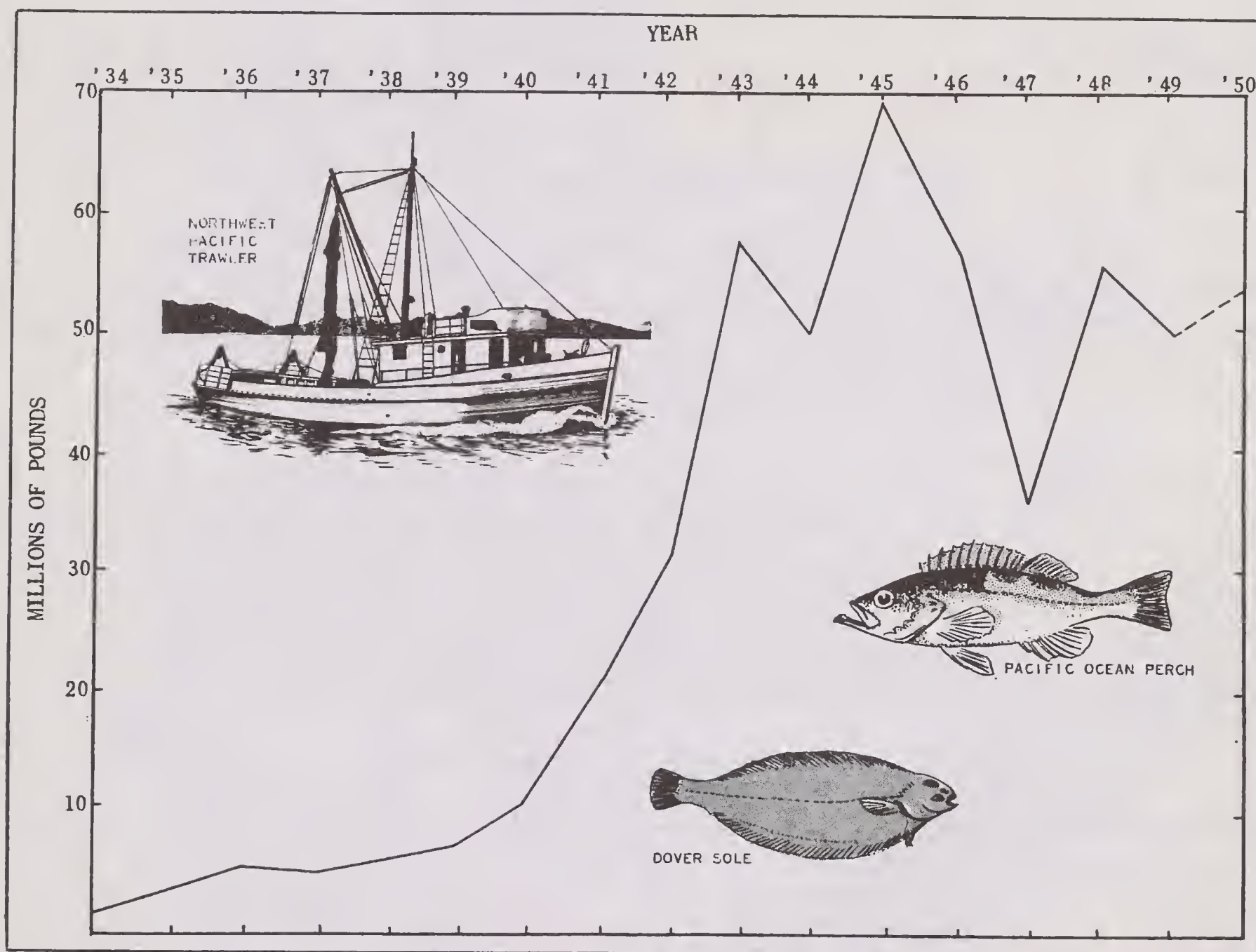


FIG. 1 - COMBINED OTTER-TRAWL LANDINGS OF FOOD FISH FOR WASHINGTON AND OREGON, 1934-1950.

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BRIEF HISTORY OF THE NORTH PACIFIC OTTER-TRAWL FISHERY

The offshore otter-trawl fishery of the Pacific Northwest began slightly over a decade ago. Since that time the fishery has skyrocketed in production and has become one of the major fisheries of the region (see figure 1). In a ten-year period, landings by the trawl fleets of Washington and Oregon multiplied 190 times (Anonymous 1944). U. S. Fish and Wildlife Service statistics show that an all-time high of approximately 70 million pounds of trawl-caught food fish were landed in 1945. This rapid growth of the fishery was principally the result of technological improvements in handling the product, the heavy demand for fishery products during the war years and the ability of the fishermen to produce large quantities of bottom fish at low cost.

In the early stages of the otter-trawl fishery, "drag boats" fishing off the Washington coast confined their operations to the waters between Destruction Island and Cape Flattery (Cleaver 1949). By 1938 the Grays Harbor region, as well as the Swiftsure and the La Perouse Banks, were being fished. During the ensuing years, the fishery spread along the west coast of Vancouver Island, and finally north to Hecate Straits. By 1948 the Washington trawl fleet was reported (Cleaver and Parker 1948) to number close to 200 vessels. This fleet fished waters ranging from the Columbia River to the northern Hecate Straits. The Oregon trawl fishery began somewhat later than that of Washington; however, a similar rapid growth occurred in that State's fishery.

In general, trawl fishing off the Washington and the Oregon coasts has been limited to depths shallower than 100 fathoms, although during the past several years, some trawlers have been fishing at depths between 100 and 200 fathoms off central Oregon for Pacific ocean perch (Sebastes alutus).

Otter-trawl vessels in the Pacific Northwest are mainly of the West-Coast purse-seine type with the trawl set and towed from the stern. The continued use of the purse-seine type boat for trawling can be ascribed to the vessel's versatility, since it can be employed successfully in several different kinds of fishing.

During the growth of the fishery, changes in gear evolved through experience and need. Larger nets were fished, heavier doors were used, better winches developed, wire cables replaced fiber-rope tow lines, and the balloon trawl was introduced. New electronic equipment also aided the fisherman. Two-way radio, echo-sounding equipment, radio-direction finders, and loran play an important role in operations of the modern otter trawlers.

If the demand for trawl-caught fish continues to grow, opportunities for increased production will be limited to several alternatives: (1) obtaining a greater yield from existing grounds; (2) developing new grounds further to the north, such as in the Gulf of Alaska and the Bering Sea; (3) or extending existing grounds to greater depths. The limited development within the past several years of deep-dragging grounds off Eureka, California, and Newport, Oregon, has demonstrated the feasibility of production at depths beyond the 100-fathom curve.

THE AREA EXPLORED

In referring to the detailed chart (figure 2), it will be noted that the exploration covered an area measuring nearly 60 miles north and south and extending up to 55 miles offshore. The most prominent submarine feature of this region is the deep-water trough which extends from Cape Flattery in a southwesterly direction and terminates in deep water 25 miles west of Carrol Island. The deeper portions of this trough have a depth range from 150 to 200 fathoms. South of the trough,

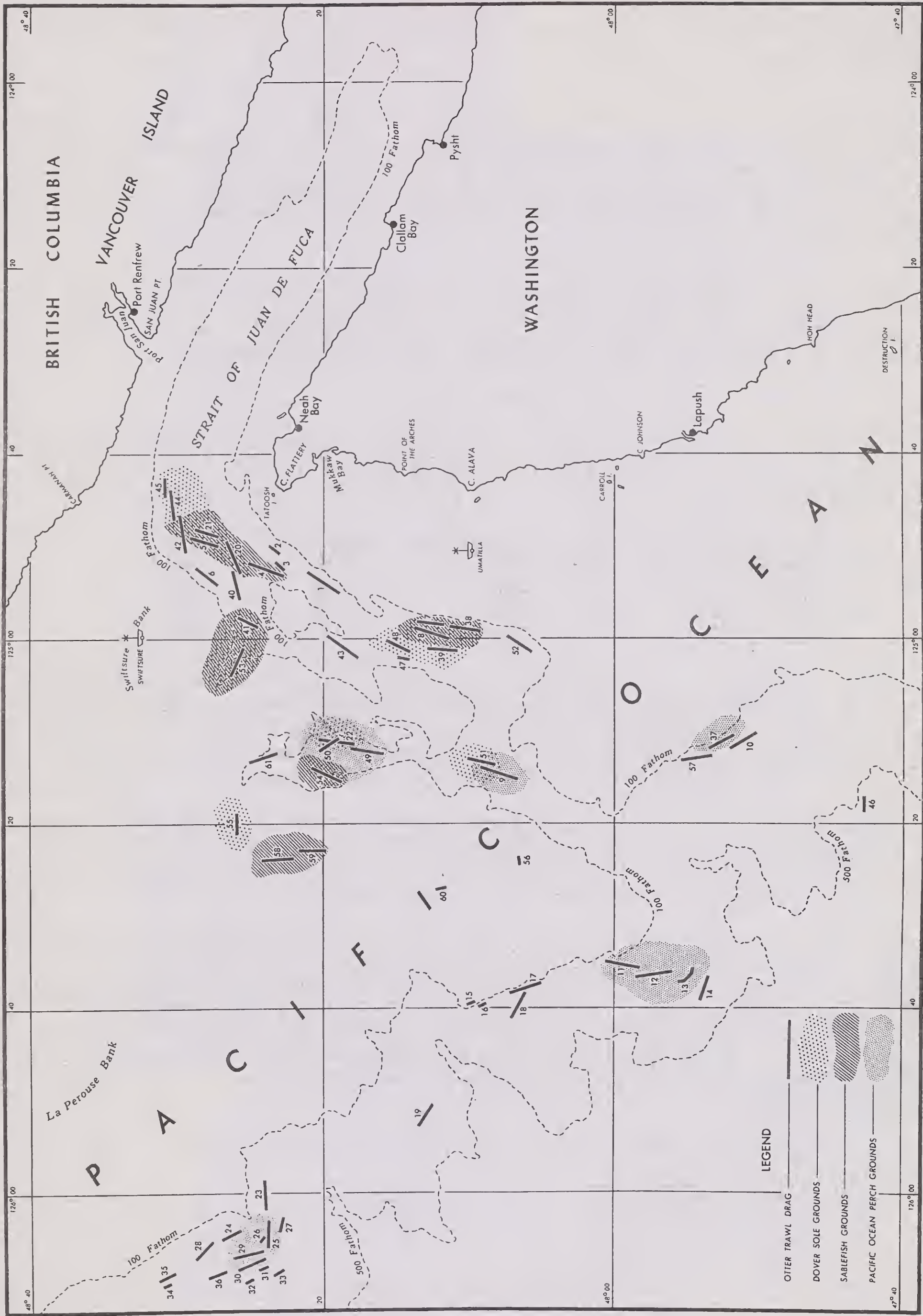


FIG. 2 - EXPLORATORY DRAGS, AREAS OF SPECIAL FISHING INTEREST, AND BOTTOM CONTOURS.

the continental shelf^{1/} extends offshore for approximately 20 miles before the steeper continental slope ^{2/} begins. To the north and west of the trough, the continental shelf broadens and extends approximately 50 miles seaward, forming a shallower off-shore bank sometimes locally referred to as "the spit." Depth contours, drag locations, and areas of special fishing interest are shown in figure 2.

The continental slope below 200 fathoms was generally found to be quite steep and broken by numerous submarine canyons. Few areas suitable for trawling were located deeper than the 200-fathom contour. Between the depths of 100 and 200 fathoms, the slope was found to be more gentle and with fewer irregularities. Bottom samples collected from the entire area included gravel, rock, sand, mud, and a few large boulders.

The bottom topography of the "trough," as contrasted with the abrupt slopes of the offshore banks, was found to be relatively level and suitable for trawling. Clay, mud, and sand were prevalent in bottom samples from the trough with occasional showings of gravel and rock. Only a few snags were encountered here.

GEAR USED

All exploratory drags were made from the John N. Cobb with a standard 400-mesh Western trawl (see figure 3) in common use in the Pacific Northwest so as to permit ready commercial appraisal of results. The specifications for this net are given below:

Section of Net	Length in meshes	Mesh size	Thread
Wings.....	100	$4\frac{1}{4}$	42
Body.....	100	$4\frac{1}{4}$	42
Intermediate.	75	$4\frac{1}{4}$	60
Cod end.....	50	$3\frac{1}{2}$	108

The head rope of the net was made of 1/2-inch diameter wire rope, and the foot rope was of 5/8-inch diameter wire rope, both wrapped with manilla. The doors were 4 feet by 8 feet and weighed 850 pounds each. One thousand fathoms of 1/2-inch diameter cable were carried on each of the two winch drums for use as trawl warps, and 20 fathoms of "dandy-line" gear were used between the doors and the net.

Floats present a particular problem in deep-water trawl fishing in that they must be capable of withstanding the extreme pressures encountered. Two styles of deep-sea floats constructed of an aluminum alloy (see figure 4) proved satisfactory at depths to 530 fathoms. Both types are spherical in shape and 8 inches in diameter.

One float is made with a lifting plane around the lower portion of the sphere, which is claimed to increase the lifting ability of the float from 6 pounds static bouyancy to 30 pounds at normal towing speed. Usually three round aluminum floats were fastened to each wing of the net, and four of the plane-type floats were fastened to the head rope. The net so rigged gave good catches of both flat fish and round fish. These floats are manufactured in England and were used in this survey because domestically-made floats with a similar pressure resistance could not be obtained at the time.

A Dietz-LaFond-type bottom sampler was used in collecting bottom deposits (see figure 5).

^{1/} ACTUALLY TERRACED REGIONS ALONG THE CONTINENT WITH DEPTHS NOT EXCEEDING 100 FATHOMS.

^{2/} THE SLOPES LEADING FROM THE EDGE OF THE CONTINENTAL SHELF TO THE GREAT DEPTHS OF THE OCEAN.

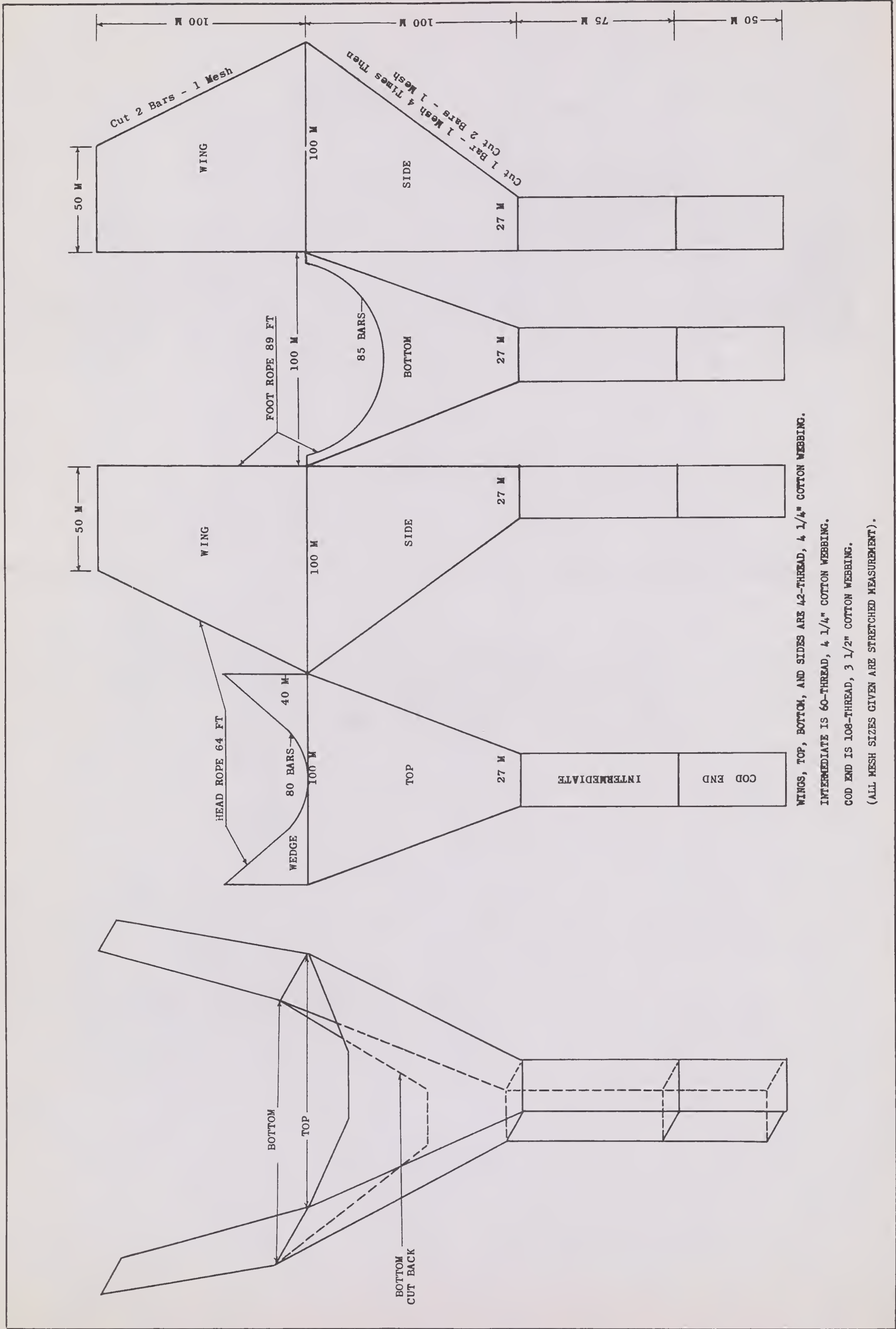


FIG. 3 - 400-MESH WESTERN OTTER TRAWL USED BY THE JOHN N. COBB.

METHODS



FIG. 4 - ALUMINUM ALLOY FLOATS USED ON THE TRAWL NETS AT DEPTHS UP TO 530 FATHOMS.
LEFT - SPHERICAL FLOAT.
RIGHT - SPHERICAL FLOAT WITH LIFTING PLANE.

The fishing methods used in this trawl survey were similar to those commonly practiced by Pacific Coast otter-trawl vessels. The net was set from the stern and picked up from the starboard side. Normal trawling speed was about 2.5 miles per hour. A scope²/₃ of 2 to 1 plus 20 percent of the depth was found to be a satisfactory ratio for most depths fished. In several very deep drags, a ratio of slightly less than 2 to 1 was utilized successfully. Generally, the scope may be decreased as the depth increases.

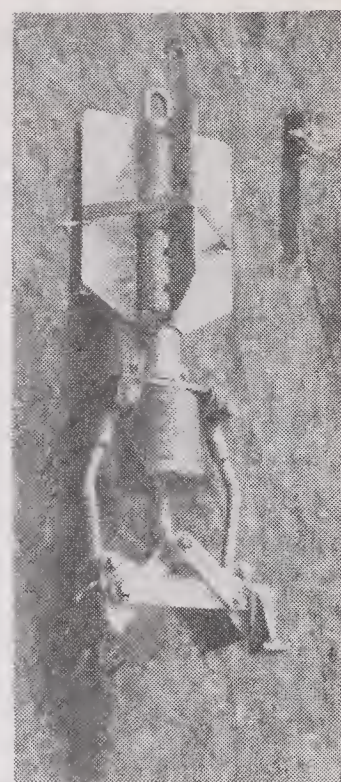


FIG. 5 - A DIETZ LAFOND BOTTOM SAMPLER USED IN THE SURVEY

In exploratory trawling, considerable time is consumed in locating suitable bottom. Although the navigation charts which show soundings of the area assisted in determining the general topography of the bottom, they do not show numerous irregularities which may be encountered. The use of a constant-recording echo sounder proved of great value in locating new grounds. All prospective drags were first sounded out with the depth recorder and if the bottom appeared to be relatively uniform a set was made; nevertheless, even with these precautions many snags were encountered which damaged or destroyed gear. When feasible, an effort was made to hold to a uniform depth contour for each particular drag.

In determining the position at sea, loran was used extensively. Loran fixes were obtained at the beginning of most drags and the positions were accurately plotted on the navigation charts. In a few cases where drags were made in close proximity to land, radar bearings also were taken to plot the position.

All drags lasted for a period of one hour, when possible. The catches were sorted on the deck and the approximate weights of various species were recorded. Dominant varieties were sampled for size and weight, and certain quantities were saved for technological studies.

FISHING RESULTS

Detailed results of all exploratory drags are tabulated in the fishing log ³/₄ RATIO OF TOW LINE TO DEPTH OF WATER.

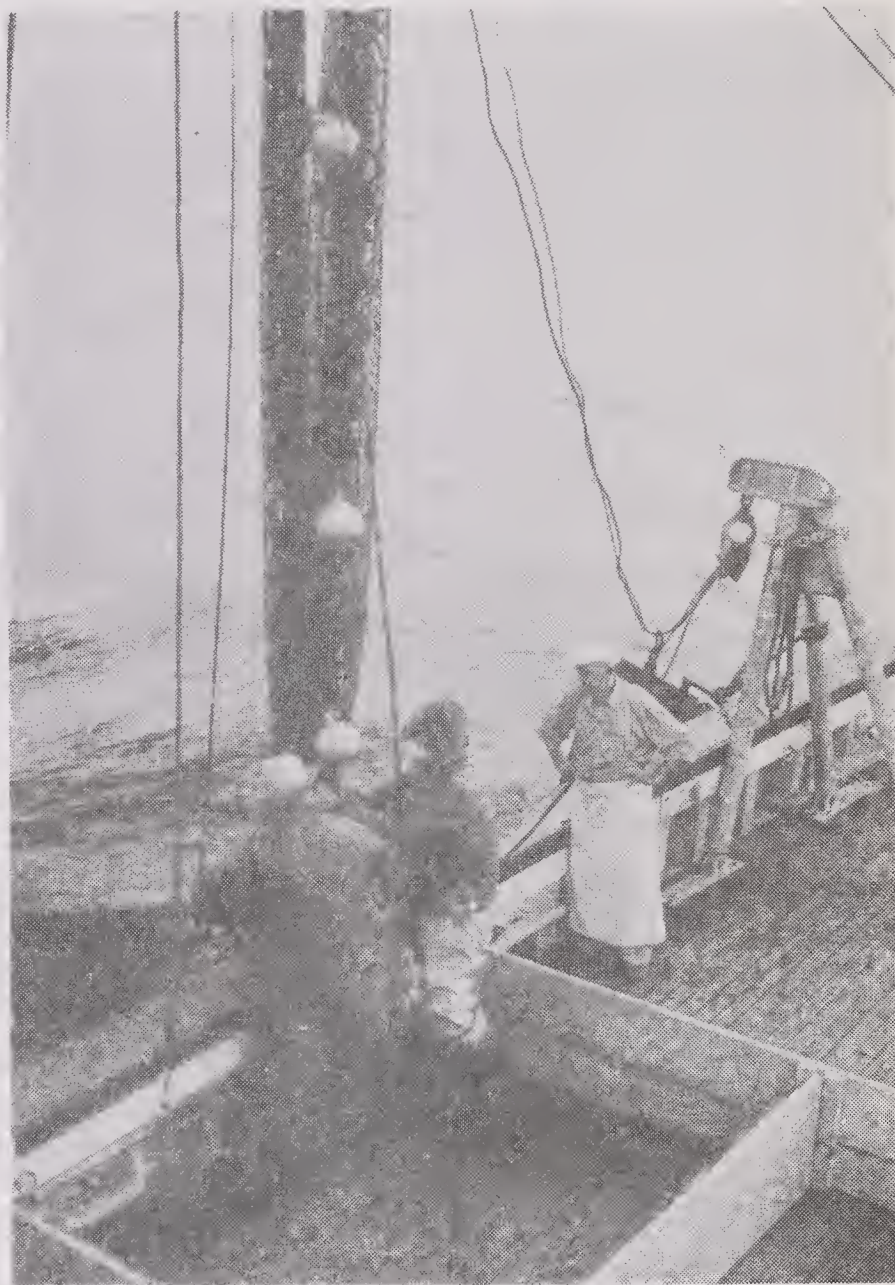


FIG. 6 - A SECTION OF NET BEING LIFTED ABOARD THE JOHN N. COBB. NOTE SECTION OF "DANDY-LINE" GEAR RUNNING FROM THE TRAWL DOOR THRU THE BLOCK TO THE NET.

(table 1) and are charted in figure 2. The positions given in the log are the starting points of each drag. As it was often necessary to alter the course of a drag to follow a certain depth contour, the courses given are the resultant direction between the starting point and the end point of each drag. To plot drags given in the table, readers are referred to U.S. Coast and Geodetic Survey Chart 6102, Approaches to the Straits of Juan de Fuca.

The John N. Cobb found three species of fish, Dover sole (Microstomus pacificus), sablefish (Anoplopoma fimbria), Pacific ocean perch (Sebastodes alutus) available in commercial quantities at depths between 100 and 225 fathoms. Figure 2 shows areas in which good catches of the three species were taken. The shaded regions outlining Dover sole and Pacific ocean perch fishing grounds yielded catches of 1,000 pounds or more per hour. Areas where sablefish grounds are indicated gave catches of 500 pounds or more per hour.

DOVER SOLE: The best hauls of Dover sole were made in the trough north and west of Tatoosh Island. This area yielded a number of catches of Dover sole exceeding 1,000 pounds per hour, and one drag produced 3,200 pounds. The bottom in this region was clear of obstruction and composed of mud, clay, sand, and some gravel. South of this area several bad snags were encountered on drags 2 and 3.



FIG. 7 - MENDING THE NET. EXPLORING NEW GROUNDS RESULTS IN FREQUENT DAMAGE TO GEAR.



FIG. 8 - A GOOD CATCH OF BOTTOM FISH BEING SORTED.

Good catches of Dover sole, up to 3,000 pounds per hour, were also made in the trough from Point of the Arches south to Cape Alava. The bottom in this region was generally clear. For best Dover sole catches, see drags 8, 20, 21, 22, 38, 39, 41, 44, 45, 48, 51, 53, 55, and 57 in the fishing log.

The Dover sole taken were of good commercial size. A random sample of 200 fish ranged from 13 to 25 inches in length, with the average being slightly over 18 inches.

The only other flat fish taken in considerable quantity were the arrow-toothed flounder (Atheresthes stomias)^{4/} and the rex sole (Glyptocephalus zachirus), not generally marketed in the Pacific Northwest.

^{4/} COMMONLY REFERRED TO AS "TURBOT" BY MANY NORTHWEST FISHERMEN.

SABLEFISH: The best catches of sablefish were also made in the trough north and west of Tatoosh Island. Drags in this region yielded from 500 to 2,500 pounds of sablefish per hour. For best sablefish catches, see drags 4, 5, 8, 20, 38, 41, 42, 53, 54, 58, and 59. The fish were of good commercial size, and a sample of 162 fish averaged almost 9 pounds.

PACIFIC OCEAN PERCH: Pacific ocean perch were by far the most common and the most abundant fish taken in the deep-water trawl work. This species was especially common on the offshore banks at depths from 125-220 fathoms; however, many good catches were also made in portions of the trough. Probably the best prospective

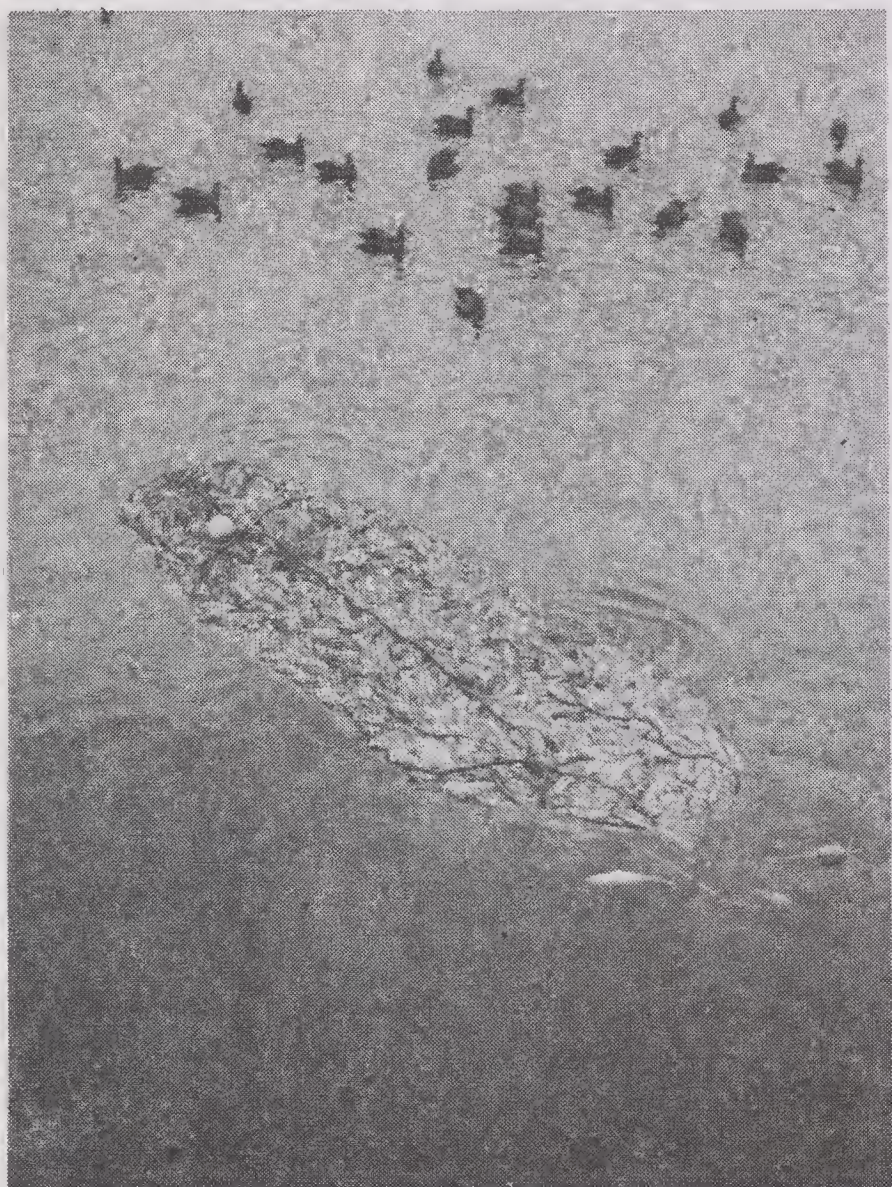


FIG. 9 - A LARGE "FLOATER" (FULL LOAD IN THE COD END) OF PACIFIC OCEAN PERCH BEING HAULED IN, ACCOMPANIED BY THE EVER-PRESENT FLOCK OF ALBATROSS OR GOONIES.

fishing grounds discovered for these fish were on the continental slope, approximately 35 miles west of Cape Johnson. Drags in this region gave catches ranging from 1,000 to 5,000 pounds per hour of Pacific ocean perch. The bottom in this area was mostly clear of obstructions although several large tears in the net were made in drag number 13 at depths from 216 to 225 fathoms.

Another region where several excellent catches of Pacific ocean perch were made was about 55 miles due west of Cape Flattery; however, for the majority of drags made, the bottom in this area was not found adaptable for trawling. Many snags were encountered and several large boulders were caught in the net (see figure 10). A considerable amount of gear was lost in this region. For best Pacific ocean perch catches, see drags 9, 11, 12, 13, 22, 25, 29, 30, 37, 49, and 54 in the fishing log. A random sample of 202 Pacific ocean perch averaged close to 15 inches in length and weighed over 2 pounds per fish.

Many species of rockfish were taken in smaller amounts along with the catches of Pacific ocean perch. Four varieties commonly caught included split-nosed rockfish (Sebastodes diploproa), rosy rockfish (Sebastodes rosaceus), black-mouthed rockfish (Sebastodes crameri), and round-finned rockfish (Sebastolobus alascanus).⁵ A catch of approximately 1,000 pounds of large black-throated rockfish (Sebastodes introniger) were taken in drag number 13, which averaged nearly 18 pounds per fish.

TRASH FISH

Trash fish including long-nosed skate (Raja rhina), and black skate (Raja kincaidii), dogfish (Squalus suckleyi), ratfish (Hydrolagus coliei), and hake (Merluccius productus), were commonly taken in the trough and at times dominated the catches. The offshore banks contained a much smaller percentage of trash fish, and most hauls there were quite clean.

⁵/COMMON NAMES OF ROCKFISH ARE NOT WELL ESTABLISHED IN THE LITERATURE, AND MUCH VARIATION TERMINOLOGY EXISTS. COMMON NAMES USED HEREIN ARE THOSE CONSIDERED TO BE MOST DESCRIPTIVE AS DESIGNATED BY PACIFIC COAST AUTHORITIES.



FIG. 10 - A LARGE BOULDER PICKED UP 55 MILES WEST OF CAPE FLATTERY. ONE OF THE HAZARDS TO GEAR ENCOUNTERED IN EXPLORING NEW BOTTOM.

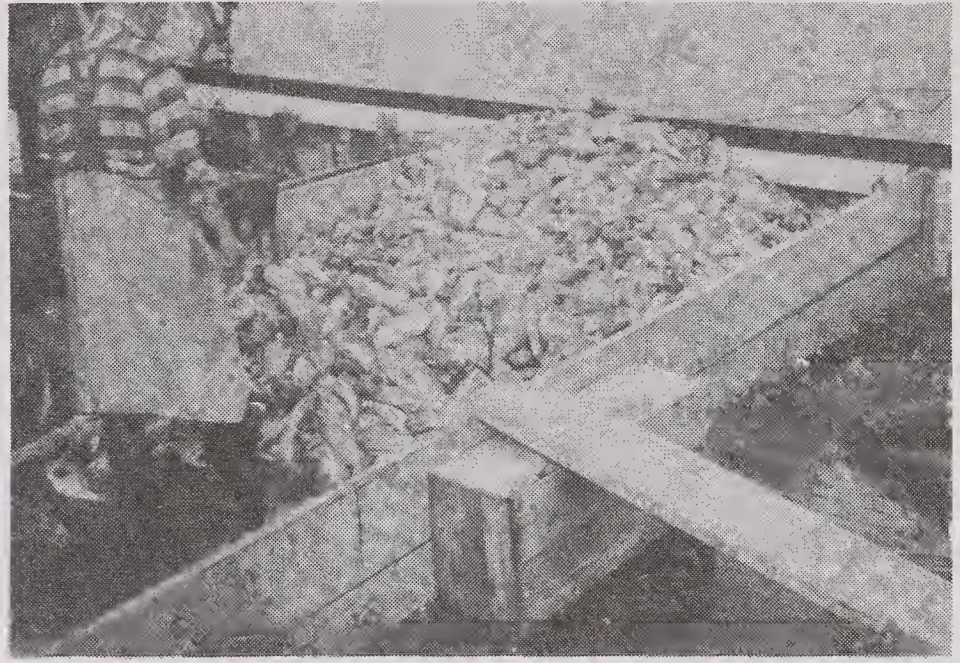


FIG. 11 - A CATCH OF PACIFIC OCEAN PERCH AND OTHER ROCKFISH.

SUMMARY

From August 27 to October 19, 1951, the Fish and Wildlife Service exploratory fishing vessel John N. Cobb conducted a survey of potential otter-trawling grounds off the coast of Washington at depths up to 530 fathoms. The work was done beyond the depth range of the present fishery, with the purpose of determining to what extent commercial fishing could be expanded into the deeper waters.

Offshore banks between 200- and the 500-fathom contours were generally found to have steep slopes and numerous canyons. Little trawling ground was located at these depths. The bottom at depths between 100 and 200 fathoms had slopes which were more gentle and with fewer irregularities. The bottom characteristics of the deep trough running southwest from Cape Flattery were generally suitable for trawling, and this area is considered the most promising of the regions explored.

Three varieties of fish were found in commercial abundance at depths between 100 and 225 fathoms. These included the Dover sole, the sablefish, and the Pacific ocean perch. Dover sole and sablefish were most abundant in the trough while Pacific ocean perch were taken both in the trough and on offshore banks. Trash fish were abundant in drags made in the trough, but were not common on the offshore banks.

A scope of 2 to 1 plus 20 percent of the depth was found satisfactory for most deep-water hauls. Good catches of trawl fish were generally located at depths between 100 and 225 fathoms. Five hundred fathoms of trawl wire for each warp should be sufficient to work these grounds.

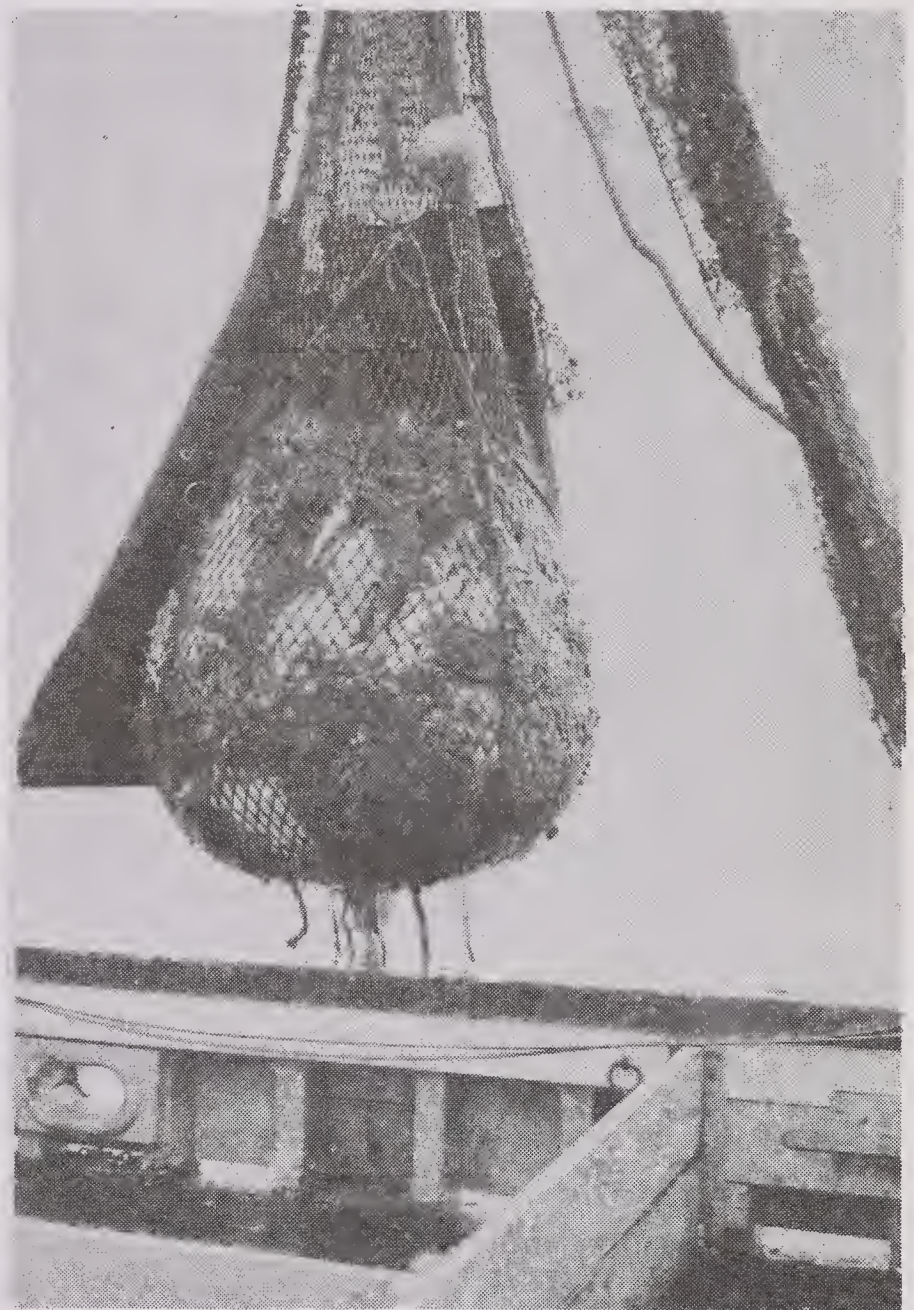


FIG. 12 - A HAUL OF FISH IN COD END OF THE TRAWL. NOTE HEAVY RUBBER CHAFING GEAR USED TO PROTECT WEB OF NET FROM ABRASIVE BOTTOM.

Table 1 - Fishing Log - Deep-Water Trawling Survey off the Coast of Washington (August 27 to October 19, 1951)

DRAG NUMBER		1	2	3	4	5	6	7	8	9	10
Date		8-28-51	8-28-51	8-29-51	8-29-51	8-29-51	8-29-51	8-30-51	8-30-51	8-30-51	8-31-51
Latitude N.		48° 18.7'	48° 23.7'	48° 22.7'	48° 22.8'	48° 29.2'	48° 28.7'	48° 13.5'	48° 13.8'	48° 08.8'	47° 51.8'
Longitude W.		124° 55.1'	124° 50'	124° 52.5'	124° 53'	124° 48'	124° 52.4'	124° 58.1'	124° 58.7'	125° 14.2'	125° 11.8'
Loran Reading		2H4-4287	2H4-4295	2H4-4203	2H4-4287	2H4-4299	2H4-4292	(Radar)	(Radar)	2H4-4243	2H4-4221
Loran Reading		2H5-2715	2H5-2691	2H5-2694	2H5-2687	2H5-2644	2H5-2631	(Radar)	(Radar)	2H5-2743	2H5-2906
Sea		Calm	Calm	Calm	Calm	Calm	Calm	Moderate	Moderate	Calm	Calm
Course, Magnetic		015°	180°	001°	000°	170°	195°	170°	182°	195°	150°
Depth Range in Fathoms		118-160	114	178-180	178-182	140-160	100-124	120-124	140-145	146-170	152-194
Type of Bottom		Gy. Cl.	Gy. M.	M. & Rky.	Gy. M.	G. & M.	Rky.	Gy. M.	M.	S.	G. & M.
Trawling Bottom		Clear	Snag	Snag	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Elapsed Time of Set		1 hr. 38 min.	1 hr. 25 min.	37 min.	1 hr. 43 min.	1 hr. 20 min.	1 hr. 20 min.	2 hrs. 5 min.	1 hr. 20 min.	1 hr. 16 min.	1 hr. 18 min.
Elapsed Time on Bottom		50 min.	48 min.	12 min.	1 hr.	1 hr.	1 hr.	1 hr.	1 hr.	55 min.	56 min.
Estimated Total Catch in Pounds		1200	800	20	3600	1800	(Crossed doors)	800	5500	4000	200
Splits		---	---	---	---	---	---	---	1	1	---
Catch in Pounds (% Marketable):											
Flat Fish:											
Dover		655 (90%)	200 (90%)	15 (100%)	800 (95%)	400 (95%)	---	150 (100%)	300 (80%)	---	50 (80%)
English		---	---	---	---	---	---	---	---	---	---
Petrals		---	---	---	Q* (100%)	---	---	---	Q* (100%)	---	---
Rex		Q* (100%)	---	---	---	---	---	Few (100%)	300 (90%)	100 (80%)	Few (100%)
Turbot		100 (90%)	80 (100%)	---	100 (100%)	300 (100%)	---	75 (100%)	500 (100%)	200 (100%)	---
Round Fish:											
Hake		---	Few (100%)	---	700 (100%)	500 (100%)	---	Few (100%)	---	50 (100%)	---
Ling Cod		---	---	---	---	---	---	---	---	Q* (100%)	---
Pollock		---	Q* (100%)	---	Few (100%)	25 (100%)	---	---	New (100%)	---	---
Sablefish		75 (100%)	350 (100%)	5 (100%)	1400 (95%)	600 (90%)	---	250 (70%)	600 (65%)	200 (80%)	75 (80%)
Shark		---	Q* (100%)	---	---	---	---	Few (100%)	Few (100%)	Few (100%)	---
True Cod		---	---	---	---	---	---	---	---	---	---
Rockfish:											
Black		---	---	---	---	---	---	---	---	---	---
Pacific Ocean Perch		300 (95%)	50 (100%)	---	40 (75%)	150 (95%)	---	100 (100%)	500 (90%)	3000 (85%)	30 (95%)
Red		35 (75%)	60 (75%)	---	Few (100%)	170 (100%)	---	16 (100%)	200 (90%)	100 (100%)	---

* BRACKETED FIGURES INDICATE NUMBER OF FISH INSTEAD OF POUNDS.

Table 1 - Fishing Log - Deep-Water Trawling Survey off the Coast of Washington (August 27 to October 19, 1951) (Contd.)

DRAG NUMBER	11	12	13	14	15	16	17	18	19	20
Date	8-31-51	9-1-51	9-1-51	9-1-51	9-2-51	9-2-51	9-2-51	9-3-51	9-3-51	9-9-51
Latitude N.	48° 00.5'	47° 58.2'	47° 54.5'	47° 53.3'	48° 10'	48° 09'	48° 04.8'	48° 06'	48° 13.5'	48° 25.8'
Longitude W.	125° 35'	125° 36.5'	125° 35.4'	125° 36.3'	125° 39.6'	125° 39.5'	125° 37.3'	125° 38.6'	125° 52.8'	121° 52.8'
Loran Reading	2H4-4175	2H4-4164	2H4-4157	2H4-4152	2H4-4185	2H4-4184	2H4-4181	2H4-4176	2H4-4159	2H4-4295
Loran Reading	2H5-2707	2H5-2737	2H5-2738	2H5-2760	2H5-2590	2H5-2599	2H5-2648	2H5-2613	2H5-2193	2H5-2678
Sea	Calm	Calm	Calm	Calm	Calm	Calm	Calm	Moderate	Mod. Chop.	Slight
Course, Magnetic	150°	146°	290°	265°	305°	305°	316°	272°	280°	067°
Depth Range in Fathoms	104-124	146-150	216-225	300-305	100	102	100	100-123	218-238	159-176
Type of Bottom	G.	G. & Sh.	G.	Rcy.	Rcy.	Rcy.	Rcy.	Rcy.	Rcy.	Gy. Cl.
Trawling Bottom	Clear	Clear	Snag	Snag	Snag	Snag	Clear	Clear	Snag	Clear
Elapsed Time of Set	1 hr. 28 min.	1 hr. 20 min.	1 hr. 31 min.	1 hr. 50 min.	19 min.	23 min.	1 hr. 23 min.	1 hr. 18 min.	5 hr. 50 min.	1 hr. 14 min.
Elapsed Time on Bottom	1 hr.	1 hr.	1 hr.	1 hr.	7 min.	5 min.	1 hr.	1 hr.	44 min.	56 min.
Estimated Total Catch in Pounds	1500	5200	6500	50	(Hung up)	(Hung up)	15 (Crossed doors)	1000	(Gear fouled)	5000
Splits	----	2	2	----	----	----	----	----	----	2
Catch in Pounds (% Marketable):										
Flat Fish:										
Dover	300 (80%)	200 (80%)	100 (80%)	15 (85%)	----	----	Few (80%)	200 (80%)	Few (40%)	3200 (95%)
English	----	----	----	----	----	----	----	----	----	----
Petrale	(Q)* (100%)	(Q)* (100%)	30 (95%)	----	----	----	Few (90%)	----	----	----
Rex	Few (100%)	Few (50%)	Few (50%)	----	----	----	Few (0%)	Few (50%)	----	----
Turbot	Few (100%)	Few (100%)	Few (100%)	----	----	----	----	150 (85%)	----	300 (100%)
Round Fish:										
Hake	----	Few (100%)	Few (100%)	(Q)* (100%)	----	----	----	----	----	Few (100%)
Ling Cod	Few (100%)	----	----	----	----	----	----	----	----	----
Pollock	----	----	----	----	----	----	----	----	----	Few (100%)
Shark	----	----	----	----	----	----	----	----	----	Few (100%)
Sablefish	100 (90%)	250 (80%)	100 (85%)	90 (90%)	----	----	----	60 (65%)	----	750 (95%)
True Cod	40 (100%)	----	----	----	----	----	----	----	----	----
Rockfish:										
Black	25 (100%)	Few (100%)	----	----	----	----	----	----	----	----
Pacific Ocean Perch	1000 (90%)	3800 (95%)	9000 (95%)	----	----	----	(Q)* (100%)	----	----	----
Red	100 (90%)	750 (20%)	1100 (95%)	Few (50%)	----	----	10 (0%)	300 (0%)	----	Few (100%)

* BRACKETED FIGURES INDICATE NUMBER OF FISH INSTEAD OF POUNDS.

Table 1 - Fishing Log - Deep-Water Trawling Survey off the Coast of Washington (August 27 to October 19, 1951) (Contd.)

DRAG NUMBER	21	22	23	24	25	26	27	28	29	30
Date	9-9-51	9-11-51	9-13-51	9-13-51	9-13-51	9-14-51	9-14-51	9-14-51	9-14-51	9-15-51
Latitude N.	48° 28.8'	48° 18.4'	48° 23.8'	48° 27'	48° 24'	48° 24.3'	48° 22.8'	48° 28.8'	48° 26.2'	48° 25.5'
Longitude W.	124° 48'	125° 11.2'	126° 01.8'	126° 05'	126° 05.8'	126° 05'	126° 04.1'	126° 07.2'	126° 07'	126° 08'
Loran Reading	2H4-4291	(Radar)	2H4-4166	2H4-4161	2H4-4158	2H4-4153	2H4-4156	2H4-4162	2H4-4152	2H4-4150
Loran Reading	2H5-2662	(Radar)	2H5-2357	2H5-2310	2H5-2335	2H5-2333	2H5-2349	2H5-2282	2H5-2315	2H5-2319
Sea	Moderate	Calm	Large swell	Large swell	Heavy swell	Moderate swell	Moderate swell	Light swell	Light swell	Calm
Course, Magnetic	176°	009°	060°	128°	093°	270°	090°	107°	143°	135°
Depth Range in Fathoms	144-160	104-108	104-122	110	124-128	140	146-154	112	128-132	149-151
Type of Bottom	G.	Gy. M.	G.	G. & S.	G.	G.	Rcy.	Rcy.	G.	G.
Trawling Bottom	Clear	Clear	Clear	Snag	Clear	Snag	Snag	Snag	Clear	Clear
Elapsed Time of Set	1 hr. 27 min.	1 hr. 17 min.	1 hr. 25 min.	1 hr. 5 min.	1 hr. 25 min.	25 min.	55 min.	1 hr. 27 min.	1 hr. 20 min.	1 hr. 30 min.
Elapsed Time on Bottom	1 hr.	1 hr.	1 hr.	44 min.	1 hr.	4 min.	30 min.	1 hr.	1 hr.	1 hr.
Estimated Total Catch in Pounds	1800	3600	2500	1000	2500	Run up	800	1000	2800	5000
Splits	---	---	1	---	---	---	---	---	1	3
Catch in Pounds (% Marketable):										
Flat Fish:										
Dover	1200 (95%)	1300 (90%)	800 (50%)	100 (50%)	300 (75%)	---	100 (50%)	100 (60%)	300 (55%)	150 (50%)
English	---	---	---	---	---	---	---	---	---	---
Petrale	---	---	(1)* (100%)	---	---	---	---	---	---	---
Rox	---	100 (50%)	Few (80%)	Few (10%)	50 (15%)	---	Few (80%)	Few (10%)	75 (20%)	---
Turbot	100 (100%)	400 (95%)	Few (80%)	Few (80%)	100 (80%)	---	Few (80%)	Few (50%)	---	100 (75%)
Round Fish:										
Hake	Few (100%)	75 (100%)	Few (100%)	Few (100%)	Few (100%)	---	---	50 (100%)	Few (100%)	Few (100%)
Ling Cod	(1)* (100%)	---	---	---	---	---	---	---	---	---
Pollock	Few (100%)	---	---	(1)* (100%)	(3)* (100%)	---	---	---	---	---
Sablefish	200 (100%)	(6)* (100%)	Few (100%)	Few (100%)	Few (50%)	---	---	---	Few (100%)	Few (0%)
Shark	Few (100%)	---	---	(1)* (100%)	---	---	---	---	---	---
True Cod	---	(1)* (100%)	---	50 (100%)	---	---	---	Few (100%)	Few (100%)	---
Rockfish:										
Black	---	---	---	---	---	---	---	---	---	---
Pacific Ocean Perch	---	1000 (95%)	500 (95%)	600 (100%)	1200 (75%)	---	500 (95%)	550 (75%)	1000 (84%)	4000 (80%)
Red	---	100 (90%)	500 (30%)	50 (60%)	300 (70%)	---	50 (50%)	150 (75%)	500 (70%)	500 (70%)

* BRACKETED FIGURES INDICATE NUMBER OF FISH INSTEAD OF POUNDS.

Table 1 - Fishing Log - Deep-Water Trawling Survey off the Coast of Washington (August 27 to October 19, 1951) (Contd.)

DRAG NUMBER	31	32	33	34	35	36	37	38	39	40
Date	9-15-51	9-15-51	9-15-51	9-16-51	9-16-51	9-16-51	9-18-51	9-19-51	9-19-51	9-20-51
Latitude N.	48° 24.2'	48° 25.2'	48° 23'	48° 31'	48° 31.3'	48° 27.5'	47° 53.2'	48° 11.5'	48° 10.7'	48° 26.2'
Longitude W.	126° 08'	126° 09'	126° 08'	126° 09.8'	126° 09'	126° 09'	125° 12'	124° 58.6'	125° 01.3'	124° 52.2'
Loran Reading	2H4-4146	2H4-4146	2H4-4144	2H4-4158	2H4-4160	2H4-4153	2H4-4224	(Radar)	(Radar)	2H4-4290
Loran Reading	2H5-2307	2H5-2288	2H5-2320	2H5-2231	2H5-2230	2H5-2260	2H5-2888	(Radar)	(Radar)	2H5-2656
Sea	Calm	Calm	Calm	Calm	Calm	Calm	Hvy. swell	Large swell	Large swell	Hvy. swell
Course, Magnetic	140°	143°	308°	150°	138°	135°	129°	166°	358°	245°
Depth Range in Fathoms	171	106	200-202	106	104	140-142	104-112	120-126	112-160	132-138
Type of Bottom	G.	Rcy.	Rcy.	Rcy.	Rcy.	Rcy.	G.	Gy. M.	G. & S.	rcy.
Trawling Bottom	Snag	Snag	Snag	Snag	Snag	Snag	Clear	Clear	Clear	Snag
Elapsed Time of Set	40 min.	35 min.	55 min.	19 min.	48 min.	1 hr. 5 min.	1 hr. 20 min.	1 hr. 22 min.	1 hr. 20 min.	1 hr. 15 min.
Elapsed Time on Bottom	14 min.	8 min.	20 min.	7 min.	32 min.	39 min.	1 hr.	1 hr.	1 hr.	53 min.
Estimated Total Catch in Pounds	1000	45	800	Hang up	400	500	3000	5000	3500	Hang up
Splits	----	----	----	----	----	----	----	2	1	----
Catch in Pounds (% Marketable):										
Flat Fish:										
Dover	Few (40%)	Few (50%)	Few (20%)	----	50 (70%)	50 (60%)	800 (70%)	2550 (85%)	1000 (50%)	----
English	----	----	----	----	----	----	----	(1)* (100%)	----	----
Petrale	Few (100%)	----	----	----	----	----	----	Few (100%)	----	----
Rei	Few (10%)	----	----	----	Few (50%)	Few (40%)	----	100 (15%)	200 (10%)	----
Turbot	100 (90%)	----	50 (100%)	----	----	----	300 (85%)	200 (80%)	500 (90%)	----
Round Fish:	Few (100%)	Few (100%)	Few (100%)	----	----	----	Few (100%)	Few (100%)	100 (100%)	----
Hake	----	----	----	----	----	----	----	----	----	----
ling Cod	----	----	----	----	----	----	----	----	----	----
Pollock	----	----	----	----	----	----	----	Few (50%)	50 (100%)	----
Sablefish	----	----	15 (100%)	----	8 (100%)	Few (100%)	100 (90%)	1000 (95%)	300 (100%)	----
Shark	----	----	----	----	----	----	----	100 (100%)	300 (100%)	----
True Cod	----	----	----	----	----	----	Few (100%)	----	----	----
Rockfish:	----	----	----	----	----	----	----	----	----	----
Black	----	----	----	----	----	----	QJ* (100%)	----	100 (100%)	----
Pacific Ocean Perch	750 (90%)	30 (60%)	650 (75%)	----	200 (80%)	300 (75%)	1200 (95%)	100 (95%)	100 (95%)	----
Red	100 (70%)	10 (0%)	50 (10%)	----	100 (75%)	100 (60%)	300 (65%)	200 (95%)	300 (100%)	----

* BRACKETED FIGURES INDICATE NUMBER OF FISH INSTEAD OF POUNDS.

Table 1 - Fishing Log - Deep-Water Trawling Survey off the Coast of Washington (August 27 to October 19, 1951) (Contd.)

DRAG NUMBER	41	42	43	44	45	46	47	48	49	50
Date	9-20-51	9-21-51	9-24-51	9-25-51	9-25-51	9-27-51	9-30-51	9-30-51	10-1-51	10-1-51
Latitude N.	48° 25.8'	48° 29.3'	48° 17.5'	48° 30.2'	48° 30.8'	47° 43'	48° 14.1'	48° 14'	48° 16'	48° 19'
Longitude W.	124° 57.6'	124° 50.6'	125° 01.8'	124° 47.2'	124° 42.6'	125° 17.2'	125° 02.2'	125° 01.8'	125° 12.2'	125° 11'
Loran Reading	(Radar)	(Radar)	(Radar)	(Radar)	(Radar)	284-4183	284-4271	284-4273	284-4254	284-4259
Loran Reading	(Radar)	(Radar)	(Radar)	(Radar)	(Radar)	285-2966	285-2733	285-2742	285-2671	285-2645
Sea	Slight Chop.	Calm	Moderate	Choppy	Choppy	Moderate	Moderate	Heavy swell	Moderate	Moderate
Course, Magnetic	182°	057°	012°	059°	244°	248°	346°	003°	348°	306°
Depth Range in Fathoms	140-148	122	102-118	120-124	110-112	520-530	166	172-184	105-112	100-102
Type of Bottom	Gy. M.	Gy. M.	Gy. M.	S.	G. & S.	M.	Ray.	Gy. Cl.	Gy. M.	M.
Trawling Bottom	Clear	Clear	Clear	Clear	Clear	Snag	Snag	Clear	Clear	Clear
Elapsed Time of Set	1 hr. 20 min.	1 hr. 31 min.	1 hr. 17 min.	1 hr. 26 min.	1 hr. 25 min.	1 hr. 45 min.	30 min.	1 hr. 35 min.	1 hr. 28 min.	1 hr. 16 min.
Elapsed Time on Bottom	1 hr.	1 hr. 9 min.	1 hr.	1 hr.	1 hr.	28 min.	4 min.	1 hr.	1 hr.	1 hr.
Estimated Total Catch in Pounds	2500	7000	2500	7000	3000	300	40 (Hung up)	2000	4000	2000
Splits	---	3	---	2	---	---	---	---	1	---
Catch in Pounds (% Marketable):										
Flat Fish:										
Dover	1000 (85%)	800 (90%)	500 (95%)	2000 (95%)	1500 (90%)	---	15 (100%)	1000 (95%)	100 (50%)	300 (70%)
English	---	Few (100%)	---	50 (100%)	Few (100%)	---	---	---	---	---
Petrale	---	---	---	---	---	---	---	---	---	---
Ber	100 (50%)	Few (100%)	Few (10%)	---	Few (10%)	---	---	---	Few (60%)	Few (10%)
Turbot	300 (95%)	2000 (90%)	300 (100%)	2000 (90%)	800 (100%)	---	---	200 (80%)	200 (100%)	300 (90%)
Round Fish:										
Hake	Few (100%)	Few (100%)	100 (100%)	Few (100%)	Few (100%)	---	---	Few (100%)	Few (100%)	Few (100%)
Ling Cod	---	---	---	---	---	---	---	---	Few (100%)	---
Pollock	Few (100%)	Few (100%)	Few (100%)	Few (100%)	---	---	---	---	---	Few (100%)
Sablefish	500 (100%)	2500 (95%)	200 (100%)	50 (100%)	100 (90%)	50 (80%)	---	100 (100%)	400 (100%)	100 (100%)
Shark	100 (100%)	200 (100%)	550 (100%)	1000 (100%)	300 (100%)	---	---	100 (100%)	Few (100%)	100 (100%)
True Cod	---	Few (100%)	---	---	---	---	---	---	Few (100%)	---
Rockfish:										
Black	---	---	---	---	---	---	---	---	---	---
Pacific Ocean Perch	50 (100%)	80 (100%)	100 (100%)	100 (100%)	50 (100%)	200 (35%)	---	75 (60%)	2800 (95%)	---
Red	50 (25%)	20 (75%)	Few (50%)	100 (10%)	50 (70%)	---	5 (0%)	Few (100%)	200 (95%)	50 (100%)

* BRACKETED FIGURES INDICATE NUMBER OF FISH INSTEAD OF POUNDS.

Table 1 - Fishing Log - Deep-Water Trawling Survey off the Coast of Washington (August 27 to October 19, 1951) (Contd.)

DRAG NUMBER	51	52	53	54	55	56	57	58	59	60	61
Date	10-4-51	10-4-51	10-9-51	10-9-51	10-9-51	10-10-51	10-10-51	10-15-51	10-15-51	10-15-51	10-16-51
Latitude N.	48° 08'	48° 06.5'	48° 25.5'	48° 18.5'	48° 25.5'	48° 06.3'	47° 53.3'	48° 22.1'	48° 21.6'	48° 12.2'	48° 23'
Longitude W.	125° 13.8'	124° 59.7'	125° 01.1'	125° 15.4'	125° 20.6'	125° 23.9'	125° 12.3'	125° 23.5'	125° 23'	125° 27.4'	125° 12.5'
Loran Reading	2H4-4243	2H4-4268	2H4-4280	2H4-4251	2H4-4247	2H4-4217	2H4-4223	2H4-4212	2H4-4239	2H4-4217	2H4-4260
Loran Reading	2H5-2739	2H5-2820	2H4-2624	2H5-2629	2H5-2530	2H5-2709	2H5-2890	2H5-2550	2H5-2558	2H5-2636	2H5-2591
Sea	Moderate	Calm	Calm	Calm	Calm	Slight Chop	Moderate	Rough	Moderate	Moderate	Moderate
Course, Magnetic	347°	192°	271°	0-1°	065°	240°	328°	330°	156°	141°	318°
Depth Range in Fathoms	142-148	170-180	98-100	100	98-100	60	102-118	98-102	81-83	60	97-108
Type of Bottom	Gr. M.	M.	M.	M. & G.	M.	Rcy.	M. & G.	Gr. M.	M. & S.	Rcy.	Gr. M.
Trawling Bottom	Clear	Clear	Clear	Clear	Clear	Snag	Clear	Clear	Clear	Snag	Clear
Elapsed Time of Set	1 hr. 22 min.	1 hr. 40 min.	1 hr. 18 min.	1 hr. 27 min.	1 hr. 25 min.	17 min.	1 hr. 18 min.	1 hr. 31 min.	1 hr. 15 min.	1 hr. 2 min.	1 hr. 15 min.
Elapsed Time on Bottom	1 hr.	1 hr.	1 hr.	1 hr.	1 hr.	5 min.	58 min.	1 hr.	1 hr.	23 min.	1 hr.
Estimated Total Catch in Pounds	2800	1200	4400	5200	4500	Hang up	3200	4000	3400	Hang up	5300
Splits	----	----	----	1	1	----	----	----	----	----	2
Catch in Pounds (% Marketable):											
Flat Fish:											
Dover	1000 (80%)	500 (50%)	1200 (90%)	500 (85%)	1000 (90%)	----	1000 (90%)	200 (80%)	500 (80%)	----	500 (75%)
English	----	----	----	----	----	----	----	----	----	----	----
Petrale	Few (100%)	----	----	Few (100%)	Few (100%)	----	Few (100%)	----	----	----	----
Rox	Few (15%)	100 (10%)	Few (10%)	Few (10%)	Few (10%)	----	Few (10%)	100 (15%)	500 (50%)	----	100 (15%)
Turbot	200 (50%)	200 (80%)	1200 (90%)	1500 (95%)	1500 (90%)	----	500 (95%)	1500 (90%)	1000 (80%)	----	2000 (90%)
Round Fish:											
Hake	Few (100%)	Few (100%)	300 (100%)	200 (100%)	Few (100%)	----	Few (100%)	----	----	----	Few (100%)
Ling Cod	----	----	100 (100%)	Few (100%)	----	----	Few (100%)	----	----	----	----
Pollock	Few (100%)	Few (100%)	Few (100%)	Few (100%)	Few (100%)	----	Few (100%)	Few (100%)	----	----	----
Sablefish	400 (100%)	100 (100%)	750 (80%)	600 (90%)	400 (90%)	----	400 (90%)	600 (95%)	500 (95%)	----	200 (100%)
Shark	Few (100%)	Few (100%)	200 (100%)	200 (100%)	300 (100%)	----	300 (100%)	800 (100%)	800 (100%)	----	800 (100%)
True Cod	----	----	Few (100%)	Few (100%)	Few (100%)	----	----	----	----	----	----
Rockfish:											
Black	----	----	----	----	----	----	----	----	25 (100%)	----	----
Pacific Ocean Perch	200 (60%)	----	275 (70%)	1600 (80%)	350 (80%)	----	700 (80%)	700 (75%)	200 (75%)	50 (75%)	1200 (80%)
Red	200 (90%)	100 (100%)	20 (100%)	400 (50%)	150 (80%)	----	100 (80%)	200 (85%)	50 (70%)	----	200 (80%)

* BRACKETED FIGURES INDICATE NUMBER OF FISH INSTEAD OF POUNDS.

As the investigation was confined to the period between August 27 and October 19, there may be variations from the results reported herein at other seasons of the year.

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U.S. CANNED FISHERY PRODUCTS PRODUCTION

That the pack of canned fishery products in the United States and Alaska in 1950 amounted to 965,357,608 pounds, valued at \$330,362,853 to the packers. This was an increase of 13 percent in volume and 12 percent in value as compared with the 1949 production. These increases resulted principally from larger packs of tuna and California sardines (pilchards). Canned fishery products were packed in 455 plants in 21 States and Alaska during 1950.

That California led in the production of canned fishery products with a pack of 517,045,017 pounds, valued at \$140,251,694. Alaska was second with 158,294,861 pounds, valued at \$82,828,503. These areas accounted for 70 percent of the volume of the 1950 pack and 68 percent of its value.



WEST COAST CANNERY

That the pack of tuna and tunalike fishes, which amounted to 9,016,541 cases (174,794,436 pounds), valued at \$112,830,094, was 1,726,221 cases greater than the 1949 production. Cannery received 15 million dollars more for the pack than in the previous year. The 1950 tuna pack was the sixth consecutive record pack of these fish.

That the 1950 pack of canned salmon amounted to 4,274,462 standard cases (205,174,176 pounds), valued at \$108,590,571 to the canners. Compared with 1949, this was a decline of 23 percent in volume, but an increase of 5 percent in value. The pack was the third most valuable in history.

That the 1950 pack of California sardines (pilchards) amounted to 5,070,805 standard cases (228,186,225 pounds) valued at \$26,345,609. Compared with the previous year, this was an increase of 35 percent in volume, and 23 percent in value. The 1950 pack was the largest in history.

Canned Fish & Byproducts--1950, C.F.S. No. 671



October 1951

REFRIGERATION: Freezing Fish at Sea, Defrosting, Filleting, and Refreezing the Fillets: The experimental refrigerated trawler Delaware completed test cruise No. 4. Mechanical difficulties with the refrigeration system and automatic boiler controls precluded adequate testing of the freezing operations. Inclement weather at sea limited fishing operations adding to the problems involving the mechanical systems. Repairs and alterations are being made to the refrigeration and boiler systems after which cruise No. 5 will be made to determine the freezing capacity of the refrigeration system. The fish obtained during cruise No. 4 will be used for dockside tests of the brine-freezing equipment. (Boston).

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NUTRITION: Chemical and Physical Properties of Fish and Shellfish Proteins: Many problems, such as the cause of curd formation in canned fish, browning of fish during canning, toughening of crab meat, drip formation in freezing and cold storage of fish, have not been solved owing to a lack of fundamental information as to the chemical changes which take place in fish proteins during cold storage, heating, or other processing steps. The first change to take place when fish proteins are either frozen or heated is water separation from the protein. In the case of frozen fish, at least a part of this water returns into combination with the protein on thawing. Similarly, when fish are dehydrated or dried and then rehydrated, only a part of the moisture returns to the original form. This project has as its objective the determination of the effect of such factors as the extent of grinding of fish, heat, pH, treatment with salt solutions, and freezing and cold storage upon the water retentivity of fish proteins. A better understanding of these fundamental relationships is greatly needed in order to solve some of the problems cited.

During October the effect of pH on water retentivity of frozen rockfish was determined. The thawed, ground rockfish fillets were adjusted to various pH values by the addition of sodium hydroxide or hydrochloric acid solutions and the resulting mixtures centrifuged. The water retentivity was measured by the amount of free liquid resulting. In the range of pH 0.7 to 11.4 the following results were obtained: At pH 0.7 a large amount of liquid was released on centrifuging, in fact, more than was obtained from the original fish (pH 6.9). As the acidity decreased the amount of liquid centrifuged also decreased until at pH 1.5 only a slight amount was obtained indicating maximum water retentivity at this point. With further decreases in acidity the centrifuged liquid increased in amount until at pH 5.3 water retentivity was at a minimum. Another water retentivity maximum was observed at pH 7 although the retentivity at this point was not as great as at pH 1.5. Water retentivity also reached a minimum at pH 7.5 and a maximum at pH 9.5 and greater. (Seattle)

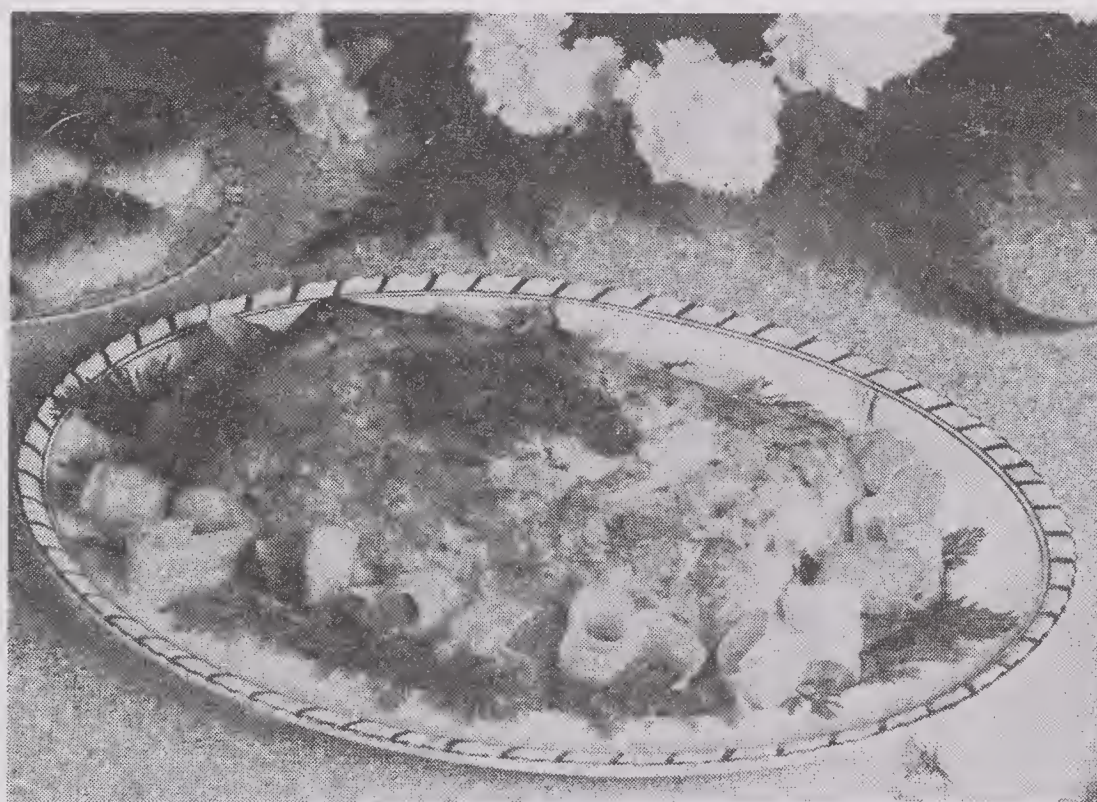
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ANALYSIS AND COMPOSITION: Composition and Cold Storage Life of Fresh-Water Fish: Little information is available on the composition of fresh-water fish and

no published information whatever is available concerning the freezing properties and cold storage life of these fish. Authentic samples of sheepshead, blue pike, yellow pike, and yellow perch were obtained in the Central States and were shipped frozen to the Seattle Technological laboratory. Chemical composition is to be determined on the various fish. The remaining samples have been placed in cold storage and will be examined periodically for their cold storage life. (Seattle).



ROSEFISH LOAF

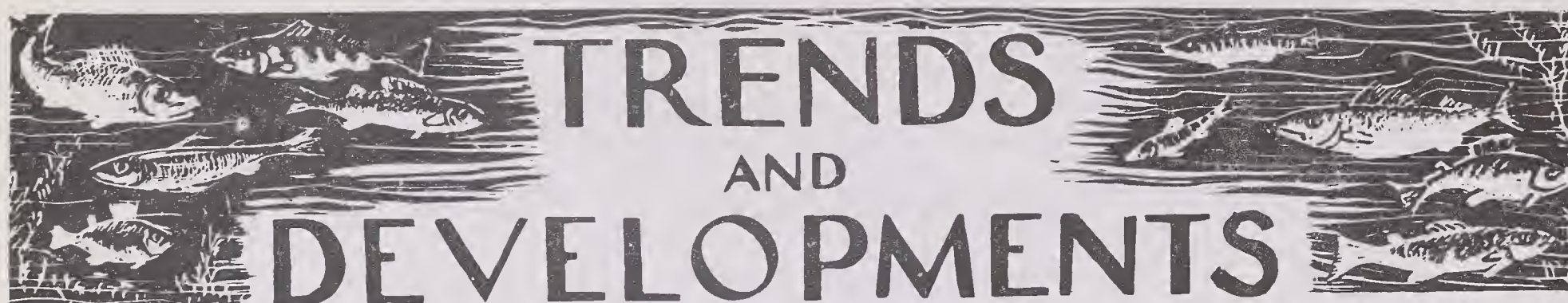


4 CUPS COOKED, FLAKED ROSEFISH
3 CUPS SOFT BREAD CRUMBS
3/4 CUP MILK
2 EGGS, WELL BEATEN
1-1/2 TABLESPOONS PARSLEY, MINCED
1 TABLESPOON LEMON JUICE

1-1/2 TEASPOONS SALT
3 TABLESPOONS BUTTER OR OTHER FAT
FEW GRAINS CAYENNE
2 TABLESPOONS ONION, GRATED
1/2 TEASPOON CELERY SALT

Combine all ingredients, mixing well. Place in a greased loaf pan. Bake in a moderate oven 350° F. for 40-45 minutes or until loaf is firm in the center. Unmold on a hot platter, and serve with a rich, bright-colored sauce. Serves 6.

A Fish and Wildlife Service tested recipe. This is one in the series of recipes using fishery products tested and developed in the Service's test kitchens.



TRENDS AND DEVELOPMENTS

Additions to the Fleet of U. S. Fishing Vessels

Fifty-two vessels of 5 net tons and over received their first documents as fishing craft during August 1951--21 less than in August 1950. California led with 12 vessels, followed by Washington with 8 vessels, and Texas and Louisiana with 6 vessels.

A total of 599 vessels were documented for the first time as fishing vessels during the first eight months of 1951 as compared with 602 vessels for the same period during 1950.

Vessels Obtaining Their First Documents as Fishing Craft, August 1951					
Section	August		Eight mos. ending with Aug.		Total
	1951	1950	1951	1950	1950
	Number	Number	Number	Number	Number
New England.....	1	2	26	22	36
Middle Atlantic.....	1	6	28	36	45
Chesapeake Bay.....	-	10	19	60	81
South Atlantic.....	8	18	76	100	153
Gulf.....	15	13	129	114	157
Pacific.....	21	17	247	187	231
Great Lakes.....	2	3	11	9	12
Alaska.....	3	3	60	71	83
Hawaii.....	1	1	3	3	4
Total.....	52	73	599	602	812

NOTE: VESSELS HAVE BEEN ASSIGNED TO THE VARIOUS SECTIONS ON THE BASIS OF THEIR HOME PORT.



Federal Purchases of Fishery Products

FRESH AND FROZEN FISH PURCHASES BY THE DEPARTMENT OF THE ARMY, SEPTEMBER 1951:
A total of 4,315,242 pounds of fresh and frozen fishery products were purchased by the Army Quartermaster Corps during September 1951 for the military feeding of the U. S. Army, Navy, Marine Corps and Air Force (see table). Compared with August 1951, September purchases increased 44 percent in quantity and 57.5 percent in value. Compared with the same month of 1950, this year's September purchases were greater by 268.2 percent in quantity and 362.5 percent in value. Purchases for the first nine months of 1951 and 1950 show an increase of 108.2 percent in quantity (nearly 13 million pounds) and 106.1 percent in value for 1951.

Purchases of Fresh and Frozen Fishery Products by Department of the Army (September and the First Nine Months, 1950 and 1951)							
Q U A N T I T Y				V A L U E			
September		January-Sept.		September		January-Sept.	
1951	1950	1951	1950	1951	1950	1951	1950
lbs.	lbs.	lbs.	lbs.	\$	\$	\$	\$
4,315,242	1,171,779	24,585,449	11,810,436	1,758,296	485,069	10,093,380	4,897,322

Freezing-Fish-At-Sea Technological Studies

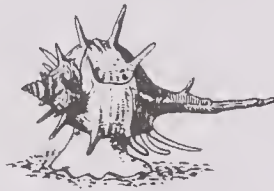
FREEZING FISH STUDIES CONTINUED BY "DELAWARE" (Cruise No. 5): In order to continue freezing fish studies at sea, the Delaware (the Service's Branch of Commercial Fisheries experimental vessel for freezing-fish-at-sea technological studies in the New England area) left Boston on October 23 and returned to port on October 27.

A total of 6,000 pounds of fish were frozen. The rates of freezing in these commercial-size quantities correspond closely with the rates of small-scale studies on shore.

Fish, principally scrod haddock, were weighed out in cotton-mesh bags in approximately 120-pound lots. Twelve of these bags were placed two each in six compartments of the rotor in the freezing apparatus. A second group of fish were frozen by submerging the bags in the freezing medium (brine) but without rotation of the equipment.

The two large drags of scrod haddock taken by the vessel were split into approximately equal-size lots. One lot was frozen and the second lot was dressed and iced in the normal commercial manner. Experiments will be conducted on shore on thawing rates, fillet yields, quality characteristics, and commercial cold-storage characteristics.

Information obtained on the operational characteristics of the refrigeration machinery indicates that it will perform in a satisfactory manner but there still remains the matter of obtaining the lowest desirable storage temperatures for the frozen fish.



Gulf Exploratory Fishery Program

"OREGON" EXPLORES FOR RED AND GROOVED SHRIMP AND LOOKS FOR TUNA (Cruise No. 11): The object of the second and major portion of the Oregon's Cruise No. 11 was to explore for red and grooved shrimp in the northeast Gulf. Following observations of tuna made in late August, the first part of this trip was devoted to a check of the north Gulf area (just off the continental shelf) for tuna. This vessel of the Service's Branch of Commercial Fisheries, which is conducting fishery exploratory work in the Gulf, left on this cruise on September 5 and completed it on October 15.

During the first half of September, the Oregon made two short trips off the Mississippi coast to follow up the late August observations of Gulf tuna. The first part of the trip ran from September 5 to 8. Nine trawling stations were made in depths of 185 to 240 fathoms, using large trawls. Catches of red shrimp (Hymenopeneus



THE M/V OREGON THE SERVICE'S BRANCH OF COMMERCIAL FISHERIES VESSEL NOW EXPLORING NEW SHRIMP GROUNDS IN THE GULF OF MEXICO.

robustus) ran from 0 to 108 pounds per hour. Both 80-foot balloon trawls and 100-foot flat trawls were used. Several nets were damaged and one trawl door was broken when it was bagged in the soft mud. Throughout this time the seas were calm. On September 7, several large schools of tuna were observed in the vicinity of latitude 28°58' N., longitude 88°39' W. Two specimens taken on trolling rigs have been provisionally identified as blackfin tuna (Parathunnus atlanticus). The schools were characteristically centered around a single whale shark feeding in a verticle position at the surface. The size of the tuna was quite small, estimated at 5 to 15 pounds each. Although there were scattered schools of small fish at the surface, the stomach contents of the two tuna captured contained predominately stomatopod larvae (young squilla or "sea lice").

From September 12 to 14 the Oregon returned to the same area. Heavy seas made observations difficult. Although several trolling rigs were hit and broken by fish, no observations of schools of tuna were made, and no tuna were caught.

On September 27 the Oregon left Pascagoula for the northwest coast of Florida. Three deep-water drags were made in 190 to 250 fathoms off Tampa Bay. A few pounds of red shrimp were taken between 200 and 250 fathoms. Bad weather forced the Oregon to tie up in St. Petersburg, Florida, on October 1 and needed repairs and bad weather kept the Oregon in that port until October 13.

A large school of little tuna (Euthynnus alletteratus) was observed on October 13 between Tampa Bay and Cedar Keys. The next morning several 10-to 15-pound little tuna were caught on trolling rigs.

After a brief port call in Pensacola on October 15, the Oregon made two drags off Pensacola in 58 fathoms. Five pounds of 4-count brown-grooved shrimp were taken. Trawls were damaged on each drag due to rough seas.



Middle and South Atlantic Tuna Explorations

LITTLE TUNA EXPLORATIONS CONTINUED BY "ATLANTIC EXPLORER" (Cruise No. 3): Explorations for little tuna off the New Jersey coast from Sandy Hook southward to Barnegat Entrance were continued by the Atlantic Explorer. The explorations were conducted at distances up to 50 miles offshore from September 21 to October 10. The Atlantic Explorer is being operated under a cooperative arrangement between the U. S. Fish and Wildlife Service and two Beaufort, South Carolina, fishery firms.

Prior to the vessel's arrival off New Jersey on September 21, reports indicated that little tuna had been present in schools near the beach. Pound nets on several occasions made substantial catches, and sport fishing for this species had been good. However, the Atlantic Explorer encountered winds from various directions ranging in force from gentle to near-gale proportions on all but two days and no surface schools of little tuna were seen. During the time the vessel was operating in the area, the catches by the pound nets were negligible and catches by offshore sport fishermen



were erratic. One body of fish was located by trolling about 25 miles offshore on a course of 110° magnetic from Manasquan Inlet. The trolling catches indicated tuna to be very widely scattered and no surface signs were seen.

LITTLE TUNA (EUTHYNNUS ALLETTERATUS) SPECIMEN CAUGHT BY ATLANTIC EXPLORER.

The unfavorable weather in this area and apparent absence of fish coupled with reports of schools of fish in the Morehead City, North Carolina, area indicated that the vessel should operate in the latter area. The Atlantic Explorer arrived at Morehead City, North Carolina, on October 12, 1951, and exploratory operations for little tuna were started. This was Cruise No. 4 for the vessel and it was to operate in the area until October 27. Operations were to be conducted from Cape Hatteras to Cape Fear as weather conditions permitted and reports of fish dictated. Trolling was to be continuously conducted to help in locating fish and when found, attempts were to be made to capture them with a purse seine.



New Chief for Service's Office of Foreign Activities

The promotion of Dr. John Laurence Kask to the position of Chief of the Fish and Wildlife Service's Office of Foreign Activities was announced on November 1 by the Secretary of the Interior.

Dr. Kask, who has been Assistant Director of the Service's Pacific Oceanic Fishery Investigations in Honolulu, T. H., will succeed Dr. Hilary J. Deason who resigned in September because of poor health.

Dr. Kask investigated the biology and utilization of the Pacific halibut for the International Fisheries Commission from 1929 to 1939; was associate scientist and assistant director of the International Salmon Commission from 1939 to 1943; and curator of aquatic biology at the California Academy of Sciences in San Francisco from 1943 to 1948. In 1948 he was appointed as chief biologist of the Fisheries Division of the Food and Agriculture Organization of the United Nations in Washington, D. C., where he served as adviser to member Governments of FAO on fishery research and developmental programs.

During 1945 and 1946, Dr. Kask spent 15 months in Japan in Military Government duties with the Fisheries Division of SCAP. During 1948, 1949, and 1950, he traveled extensively in New Zealand, Australia, the Far East, Middle East, and Europe on various FAO missions.

Dr. Kask will report for duty in Washington, D. C., as soon as he completes certain phases of his investigations in Hawaii.



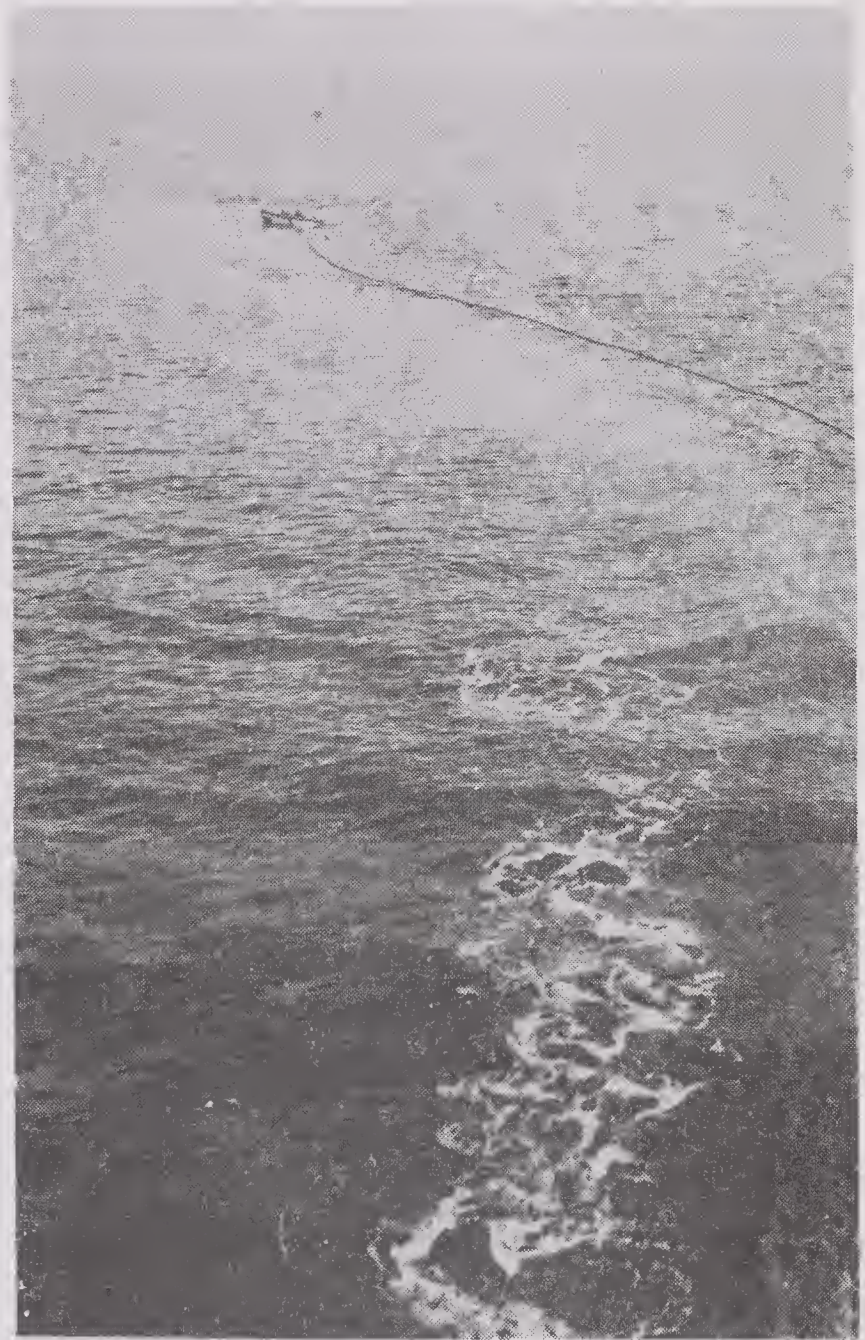
New England Tuna Explorations

"WESTERN EXPLORER" MAKES FINAL TUNA EXPLORATION TRIP (Cruise No. 7): The seventh and final trip of the 1951 season by the M/V Western Explorer was concluded on October 4 when the vessel docked at Boston. This vessel, operated by the Service's Branch of Commercial Fisheries, for several months has been searching for untapped resources of bluefin tuna in waters principally off the shores of Maine and Massachusetts. The vessel started this final trip on September 23.

The vessel departed from Gloucester and headed for the area southeast of Cape Cod Light where large schools of tuna had been sighted during the previous voyage. While many schools were sighted after two days of cruising it was impossible to make a set due to the erratic behavior of the fish and adverse weather conditions. Many of the otter trawlers on the grounds were successful in catching substantial quanti-



SHADING A CATCH OF BLUEFIN TUNA (THUNNUS THYNNUS) ABOARD THE WESTERN EXPLORER. THESE FISH WERE CAUGHT NEAR BOON ISLAND ON THE VESSEL'S CRUISE NO. 5.



WESTERN EXPLORER'S SKIFF HOLDING END OF SEINE AT THE BEGINNING OF A SET AROUND A SCHOOL OF BLUEFIN TUNA (THUNNUS THYNNUS).

ties of tuna by means of baited hooks, using fresh herring caught in the otter trawls for bait. The largest tuna catch reported by trawlers amounted to 15 tons of fish, averaging 75 pounds each.

Increasing northeast winds precluded further fishing operations and the vessel took shelter at Provincetown. The cruise was resumed when the weather improved. A cruise to the northeast, covering Stellwagen Bank, Jeffreys Ledge, and the coastal waters off the Maine Coast as far north as Mt. Desert Rock was carried out during the next few days. No tuna were sighted during this period and the vessel returned to the South Channel area where reports stated that the otter trawlers were still catching tuna.

During the next few days fresh easterly winds prevailed and only one small school was sighted in the area. Schools of tuna were reported by a dragger on Jeffreys Ledge (27 miles east by south of the Gloucester breakwater). The Western Explorer steamed to the position reported. Moderately heavy fog and brisk northwesterly winds were encountered in the area, and following a fruitless search for seven hours and with weather conditions steadily worsening, the ship returned to Boston.

Since the start of actual fishing operations on June 23, the Western Explorer made twelve sets and succeeded in capturing 90 tons of tuna. The fish were of medium size, averaging 25 pounds each with the exception of one trip made up of 41 fish that averaged about 225 pounds each.

It is expected that exploratory fishing operations for bluefin tuna will be continued next summer with further exploration of New England waters. Long lines and gill nets are the principal types of gear which will be fished.



North Pacific Exploratory Fishery Program

DEEP-WATER COMMERCIAL TRAWLING POSSIBILITIES OFF COAST OF WASHINGTON INVESTIGATED BY "JOHN N. COBB" (Cruise No. 9): After completing the first phase of a program to investigate deep-water commercial trawling possibilities off the coast of Washington, the Service's Branch of Commercial Fisheries exploratory fishing vessel John N. Cobb returned to Seattle on October 19.

The vessel's operations were confined to the offshore waters lying between Destruction Island and Swiftsure Bank, at depths from 80 to 530 fathoms. The survey lasted eight weeks. On this trip 61 otter-trawl drags were made. Also, considerable time was spent sounding out and locating trawling bottom.

Standard commercial otter-trawl nets of 400-mesh size were used on this trip. Several types of deep-water floats were tested for their ability to withstand the great water pressures encountered in deep water. An aluminum spherical-type float operated successfully at depths exceeding 500 fathoms.

Fishing results reveal that three species of fish--sablefish, Pacific ocean perch, and Dover sole--were available in commercial quantities at depths between 100 and 200 fathoms during the period of operations. In the deep trench which extends from Cape Flattery offshore in a southwesterly direction, good catches of both sablefish and Dover sole were made. Catches up to 3,200 pounds per hour of large Dover sole (average length 19 inches) and 2,500 pounds per hour of sablefish (average weight almost 10 pounds per fish) were taken in the best tows.

Pacific ocean perch (a red rockfish) was the most abundant variety found on this trip. This species was present in most hauls. In some instances, a drag of one hour's duration caught more than 5,000 pounds of Pacific ocean perch. Best fishing for Pacific ocean perch was in an area 40 miles west of Lapush, at depths of from 150 to 200 fathoms.

Some snags and tear-ups of gear were encountered on this cruise. The area approximately 54 miles west of Cape Flattery was especially foul.



Pacific Oceanic Fishery Investigations

"JOHN R. MANNING" TRIES GILL-NET FISHING FOR SKIPJACK (Cruise No. 8): Fishing experimentally for skipjack with gill nets off the leeward coast of the Hawaiian Islands was one of the principal purposes of the John R. Manning's Cruise No. 8. In addition, the vessel made plankton hauls and temperature observations each week from 22°48' N. to 20°07' N. latitude on 158°25' W. longitude. This vessel of the Service's Pacific Oceanic Fishery Investigations left Pearl Harbor on September 23 and returned on October 19.

A total of 13 gill-net sets was made in the lee waters of Oahu, Kauai, Hawaii, and Lanai--12 at night and 1 practice set during daylight. All sets were made in the absence of surface signs of fish. The catch was very small.

The tunas caught consisted of 1 skipjack (Katsuwonus pelamis) $4\frac{1}{2}$ pounds, and 1 little tuna (Euthynnus yaito) 7 pounds. The skipjack was caught on the 5" nylon, treated with a green preservative, $1\frac{1}{2}$ fathoms from the surface, and the little tuna was caught on the 10" linen, treated with another type of preservative, 2 fathoms from the surface. Other catches included one 158-pound marlin; 5 sharks, ranging from 50-130 pounds; 1 mahimahi, 35 pounds; 1 barracuda, 4 pounds; and 2 manta rays, 500 and 400 pounds.

Tuna schools were small and scarce in the leeward areas. Attempts were made to encircle schools during daylight hours with the gill nets but it was not possible to approach a school.

On the basis of this cruise and a previous attempt to gill net tuna in the Hawaiian area, there is no evidence of the possibility of catching tunas in commercial quantities.

The plankton hauls and temperature observations which were a part of a program to determine the oceanographic conditions associated with the disappearance of skipjack (aku) were conducted successfully by the John R. Manning. The observations are being continued by the Hugh M. Smith. No results are apparent yet.



Outlook for Fishery Products for Balance of 1951 and 1952

CONSUMPTION, RETAIL PRICES, AND PRODUCTION: U. S. civilian per-capita consumption of fishery products during the rest of 1951 is likely to be slightly larger than in the same months of 1950. With civilian demand for fish and shellfish expected to be maintained at a high level, retail prices for these food items probably will average somewhat higher than for the last quarter of 1950, especially for canned fish. This is the prediction contained in the outlook report prepared by the Bureau of Agricultural Economics, U. S. Department of Agriculture, in cooperation with the U. S. Fish and Wildlife Service, and published in the former agency's Oct.-Dec. 1951 issue of The National Food Situation.

Commercial landings of fishery products and commercial freezings of these commodities will decline seasonally as the year comes to a close.

CANNED FISHERY PRODUCTS: The 1951 pack of canned fishery products which has now begun to move to market in large volume probably will not exceed that of 1950. The new pack of canned salmon was larger than a year earlier, due mainly to increased output of pink salmon. Supplies of red salmon will be much smaller than in the same part of last year, while those of pink and chum salmon will be larger. The pack of tuna and Maine sardines will be down. Stocks of tuna, however, are substantial, so that the total supply is about equal to that of last year.

OUTLOOK FOR 1952: Prospects for 1952 are that total domestic supplies of fresh and processed fish and shellfish will be about the same as this year. More fresh and frozen fishery products probably will be available, but supplies of the canned products may be slightly smaller, at least until the 1952 packs start moving to market in large quantities after mid-year. Increased military procurement of canned fishery products from the 1951 pack will reduce somewhat the supplies of these products that will be available to civilians in the first half of next year. Civilian consumption of fish and shellfish products per capita in 1952 probably will be a-

bout as large as this year with perhaps more emphasis on the fresh and frozen items. The domestic demand for meat and other high protein foods is likely to continue strong so the retail prices of most fishery products next year probably will average close to those of 1951. Prices of several canned fish items from the 1951 packs probably will be substantially higher than those from the 1950 packs.

Imports of fishery products next year are expected to continue on as high a level as this year. Exports, however, may be somewhat lower, especially if dollar resources of principal foreign markets continue to decline.



Wholesale and Retail Prices

WHOLESALE PRICES, SEPTEMBER 1951: Prices for edible fishery products during September were substantially lower than in the same month of 1950. However, lighter production and a seasonal increase in demand were responsible for a slight increase in prices from August to September this year. The edible fish and shellfish (fresh, frozen, and canned) wholesale index for September was 104.9 percent of the 1947 average (see table)—1.4 percent higher than in August, but 6.8 percent below September 1950, the Bureau of Labor Statistics of the Department of Labor reports.

Table 1 - Wholesale Average Prices and Indexes of Fish and Shellfish, September 1951, with Comparative Data								
GROUP, SUBGROUP, AND ITEM SPECIFICATION	POINT OF PRICING	UNIT	AVERAGE PRICES (\$)			INDEXES (1947 = 100)		
			Sept. 1951	Aug. 1951	Sept. 1950	Sept. 1951	Aug. 1951	Sept. 1950
ALL FISH AND SHELLFISH (Fresh, Frozen, and Canned)						104.9	103.5	112.5
Fresh and Frozen Fishery Products:						104.8	103.6	113.3
Drawn, Dressed, or Whole Finfish:						113.6	112.0	129.2
Haddock, large, offshore, drawn, fresh	Boston	lb.	.10	.10	.13	106.4	107.6	130.7
Halibut, Western, 20/80 lbs., dressed, fresh or frozen	New York City	"	.32	.32	.40	93.4	93.3	115.3
Salmon, king, lge. & med., dressed, fresh or frozen	" " "	"	.53	.53	.56	130.1	129.9	138.0
Whitefish, mostly Lake Superior, drawn (dressed), fresh	Chicago	"	.63	.47	.51	182.7	135.8	147.1
Whitefish, mostly Lake Erie pound net, round, fresh	New York City	"	.75	.51	.79	170.1	115.8	179.4
Lake trout, domestic, mostly No. 1, drawn (dressed), fresh	Chicago	"	.54	.53	.47	118.6	116.4	103.8
Yellow pike, mostly Michigan (Lakes Michigan & Huron), round, fresh ..	New York City	"	.58	.60	.58	134.6	141.1	135.5
Processed, Fresh (Fish and Shellfish):						94.0	93.3	95.0
Filletts, haddock, small, skins on, 20-lb. tins	Boston	lb.	.28	.28	.27	102.0	100.6	97.7
Shrimp, lge. (26-30 count), headless, fresh or frozen	New York City	"	.52	.53	.59	75.6	76.5	85.3
Oysters, shucked, standards	Norfolk area	gal.	5.00	4.88	4.50	123.1	120.0	110.8
Processed, Frozen (Fish and Shellfish):						101.2	99.8	103.5
Filletts: Flounder (yellowtail), skinless, 10-lb. bxs. ..	Boston	lb.	.42	.42	.35	135.6	135.6	113.0
Haddock, small, 10-lb. cello-pack	"	"	.24	.24	.26	108.1	106.3	115.4
Ocean perch (rosefish), 10-lb. cello-pack	Gloucester	"	.24	.23	.24	120.3	114.4	122.2
Shrimp, lge. (26-30 count), 5-lb. bxs.	Chicago	"	.57	.57	.61	81.7	82.5	88.2
Canned Fishery Products:						105.1	103.4	111.3
Salmon, pink, No. 1 tall (16 oz.), 48 cans per case	Seattle	case	20.68	20.68	22.90	134.9	134.9	149.3
Tuna, light meat, solid pack, No. 1/2 tuna (7 oz.), 48 cans per case	Los Angeles	"	12.75	12.75	14.81	82.9	82.9	96.4
Sardines (pilchards), California, tomato pack, No. 1 oval (15 oz.), 48 cans per case	" "	"	6.75	6.75	6.25	75.5	75.5	69.9
Sardines, Maine, keyless oil, No. 1/4 drawn (3 1/2 oz.), 100 cans per case ..	New York City	"	8.68	7.46	5.75	85.1	73.2	56.4

1/CORRECTED.

Drawn, dressed, or whole finfish prices in September were 12.1 percent below the corresponding month a year ago, but 1.4 percent above August this year. Hebrew holiday buying during September accounted for most of the latter increase. Higher quotations were reported for all fresh-water fish included in the index, except yellow

pike which sold at slightly lower prices. Fresh large offshore haddock prices dropped slightly from August to September and were 18.6 percent below September 1950. Although halibut and salmon prices were slightly higher in September, they were 19.0 and 5.7 percent lower, respectively, than during the same month a year ago.

Processed fresh fish and shellfish prices in September were 1.1 percent lower than in September 1950, but rose 0.8 percent from August to September this year. Higher prices for fresh haddock fillets and shucked oysters were offset by lower prices for fresh headless shrimp. The latter dropped 1.2 percent from August to September and were quoted 11.4 percent lower than in September 1950.

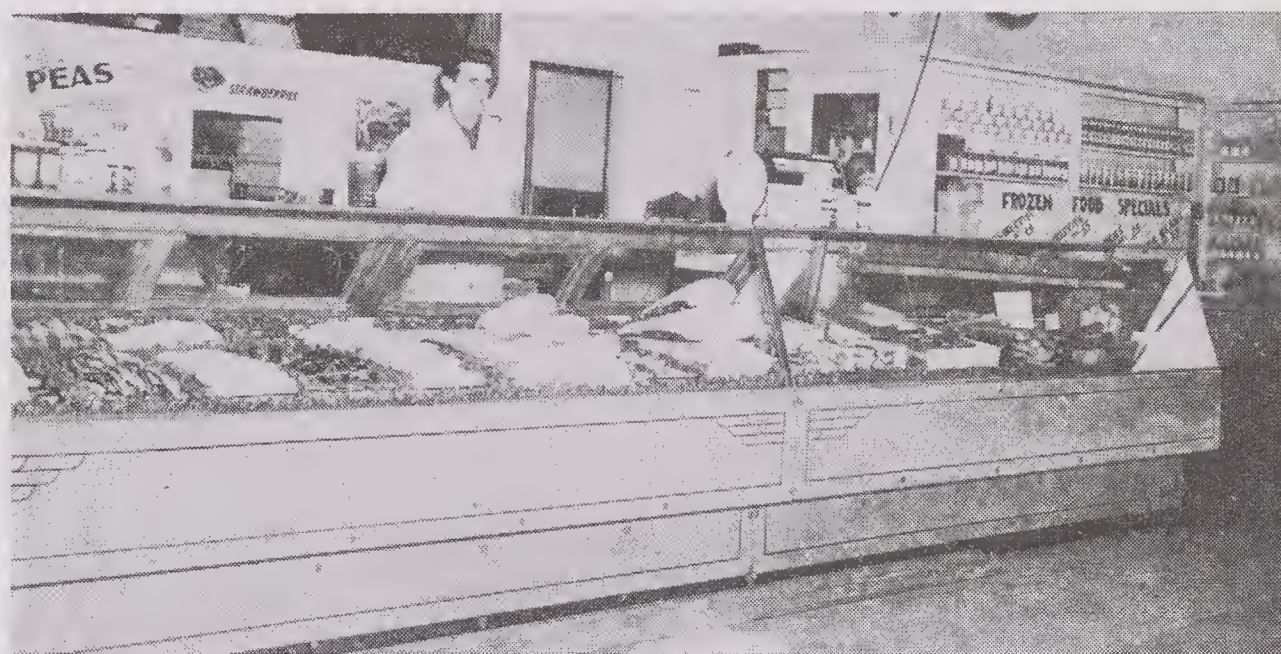
From August to September, frozen headless shrimp prices dropped 1.0 percent and were reported 7.4 percent lower than during the same period in 1950. This decline was offset by higher prices for frozen haddock and ocean perch (rosefish) fillets during the same period, but these products were priced lower than in 1950 by 6.3 percent and 1.6 percent, respectively. Prices for frozen flounder fillets remained unchanged. The processed frozen fish and shellfish index for September was 1.4 percent higher than in August, but 2.2 percent below September 1950.

Canned fishery products prices in September were 5.6 percent lower than in the same month of 1950, but increased 1.6 percent from August to September. During the latter period, prices for canned Maine sardines rose 16.3 percent, while canned pink salmon, tuna, and California sardine (pilchard) prices remained unchanged at August levels. Compared with September 1950, this year's prices were lower by 9.6 percent for canned pink salmon and 14.0 percent for canned tuna. The Maine sardine pack this year is reported at approximately one-third of the 1950 pack, and this year's California sardine pack is not very much larger than last year's.

RETAIL PRICES, SEPTEMBER 1951: Moderate-income urban families paid slightly more for all foods between August 15 and September 15 than they did for the previous 30-day period. While the adjusted retail price index for all foods advanced 0.1 percent, fishery products in all categories showed a general decrease during this period.

The all-foods index at retail in mid-September was 227.3 percent of the 1935-39 average, some 8.2 percent higher than the corresponding period of 1950 (see table 2).

Retail prices paid for all fish and shellfish (fresh, frozen, and canned) averaged 353.2 percent of the 1935-39 base in mid-September--a decrease of 0.9 percent as compared with the previous month, but still 13.4 percent higher than the 1950 average for the same date.



A MODERN RETAIL FISH COUNTER.

Fresh and frozen fish retail prices averaged 0.8 percent less during the August 15-September 15 period with the retail price index settling at 290.1 percent of the 1938-39 average. Prices for fresh and frozen fish and shellfish were, however, 5 percent above the same period in 1950.

Canned pink salmon retail prices continued their downward trend throughout the country. The adjusted retail price index on September 15 was 503.1 percent of the 1938-39 average--1.1 percent lower than the previous month, but 32 percent higher than the corresponding period of 1950.

Table 2 - Adjusted ^{1/} Retail Price Indexes for Foods and Fishery Products, September 15, 1951, with Comparative Data				
Item	Base	I N D E X E S		
		Sept. 15, 1951	Aug. 15, 1951	Sept. 15, 1950
All foods.....	1935-39 = 100	227.3	227.0	210.0
All fish and shellfish (fresh, frozen, and canned)	do	353.2	356.4	311.4
Fresh and frozen fish.....	1938-39 = 100	290.1	292.5	276.2
Canned salmon: pink.....	do	503.1	508.2	381.1

^{1/} INCLUDES ADJUSTMENTS TO IMPROVE THE CONSUMER'S PRICE INDEX AND TO MAKE IT A MORE ACCURATE MEASURE OF PRICE CHANGES IN THE MOBILIZATION PERIOD (SEE COMMERCIAL FISHERIES REVIEW, MARCH 1951, P. 21).

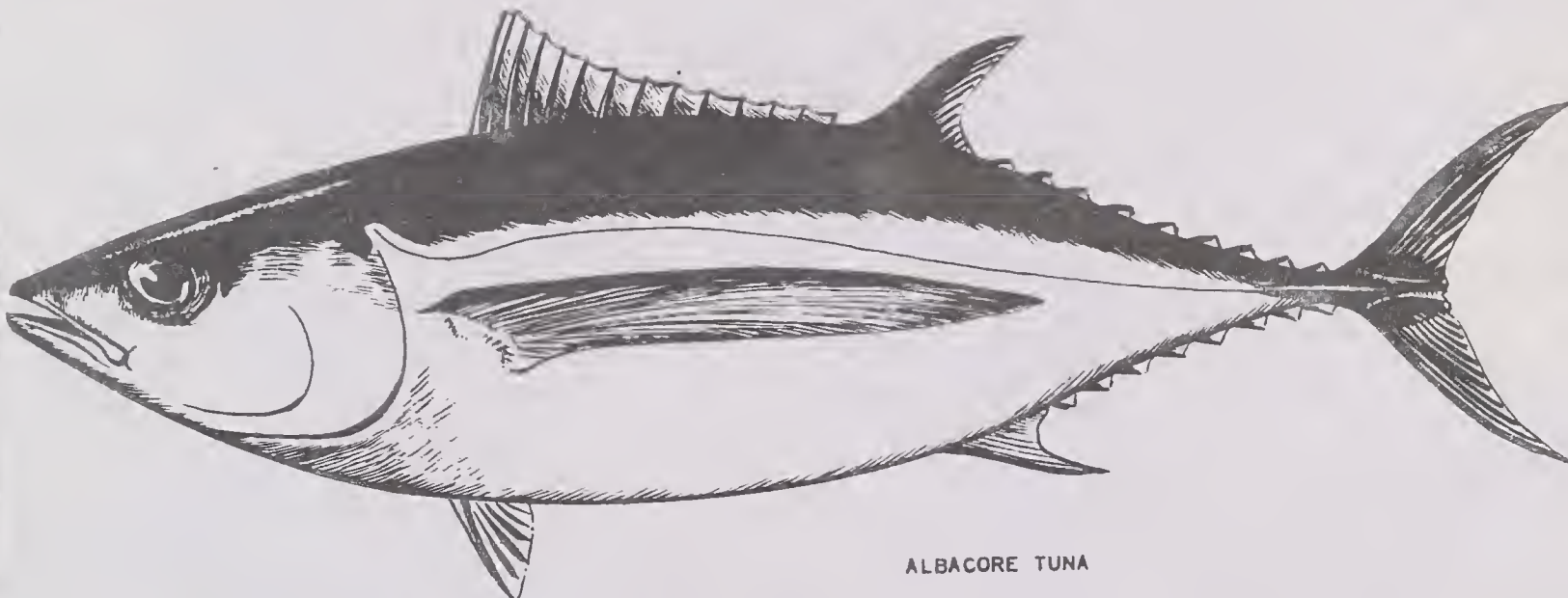


Economic Cooperation Administration Authorizations

Included among a list of firms given authorizations to import commodities into the Philippines under ECA financing for resale were five firms importing fish hooks and fish nets suitable only for commercial purposes. These firms were scheduled to purchase \$56,118 worth of these products, according to an October 17 ECA news release. Some \$200,000 in ECA funds are still available for the purchase of fish nets and fish hooks by the Philippines from 1951 appropriations.



ALBACORE TUNA EXPLORATION IN ALASKAN AND ADJACENT WATERS--1949



ALBACORE TUNA

Among the several species of tuna which make up the commercial pack in the United States, the albacore, Thunnus alalunga, the white-meat tuna, is the most highly prized. Although this fish has been caught commercially in California waters since the beginning of the tuna industry, it was not until the summer of 1937 that albacore were landed in commercial quantities in Pacific Northwest waters. In 1938, the first sizable pack was put up in Oregon and Washington, and since that time an ever-increasing number of boats have been engaged yearly in tuna fishing off the northwest coast.

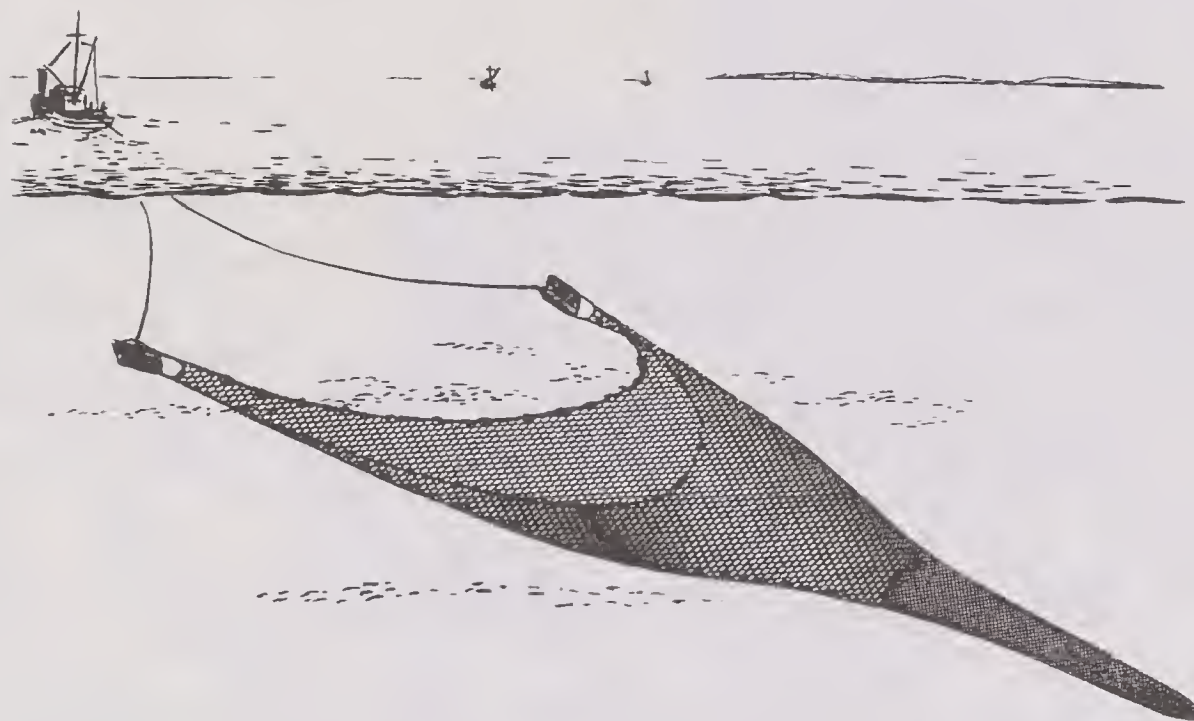
--Fishery Leaflet 376

GULF OF MEXICO SHRIMP TRAWL DESIGNS

Newly-introduced styles of shrimp trawls are being developed on a large scale for the first time in many areas of the Gulf of Mexico. The Atlantic Coast boats brought the "balloon trawl," as it is known locally, into prominence in the Gulf where only "flat-type trawls" were regularly used before. At Key West they became the favored type of gear due to a reported cleaner catch, although experimental trawling by the U. S. Fish and Wildlife Service Exploratory Vessel Oregon (operating in the Gulf) does not indicate that balloon trawls produce more shrimp in that area than do flat trawls.

four-seam balloon trawl are presented, accompanied by illustrations showing construction details.

The 40-foot no-overhang flat trawl has had its greatest usage off the Alabama, Mississippi, and Louisiana coast. The Oregon has used a 40-foot no-overhang flat trawl as an exploratory try net with very good results. This net has fished well from shallow water to depths of 500 fathoms when used with weighted doors, and it is one of the simplest designs now in use.



Reports from Biloxi in February 1951 show a sweeping trend toward balloon trawls by the local fishermen in an area that has worked flat trawls almost exclusively in the past. At present the industry is more conscious of the design of gear than ever before, and many changes in usage of different trawl styles may be expected in the next few years.

Fishery Leaflet 394, Gulf of Mexico Shrimp Trawl Designs, recently issued by the Service's Branch of Commercial Fisheries, gives detailed construction information about three principal styles of nets now in use in the Gulf of Mexico's shrimp fisheries.

These trawls are not recommended over other designs now in use, but they are trawls used successfully by the Oregon in different areas of the Gulf and are presented to illustrate the basic construction details of similar styles of nets used or constructed by fishermen and trawl makers.

The more important terms used in the different fishing regions of the Gulf are defined and the most commonly used synonyms are given. The handling of fish netting is discussed and illustrated.

Descriptions of the 40-foot no-overhang flat trawl, 100-foot overhang flat trawl, and 74-foot

The 100-foot overhang flat trawl has been used widely along the Texas and Louisiana coasts and is often referred to as the "Texas" rig. It differs from the 40-foot flat type in that the bottom of the body and the bottom wings have been set back (or undercut) 36 meshes.

The 74-foot four-seam balloon trawl is the style commonly used in the East Gulf of Mexico fishery. There are several different modifications of this type resulting from individual preferences for a longer or shorter body. The first balloon trawl used by the Oregon was made by a Florida trawl maker catering to the local fleet. This style and modifications of it have been tested in two sizes. A 74-foot model has proved satisfactory in Florida waters. A 40-foot trawl built on these lines has been found consistently to "choke-off" at the throat so the catch builds up in the body of the net. The balloon trawl differs from the flat-type shrimp trawls in having dogears, wings that do not extend to the throat, different hanging, and a much wider throat.

Trawl doors or otter boards used on shrimp nets are considerably lighter than those used on the North Atlantic fish trawls. The types and sizes used are described in this leaflet.

Free copies of Fishery Leaflet 394 are available upon request from the Division of Information, U.S. Fish and Wildlife Service, Washington 25, D. C.



International

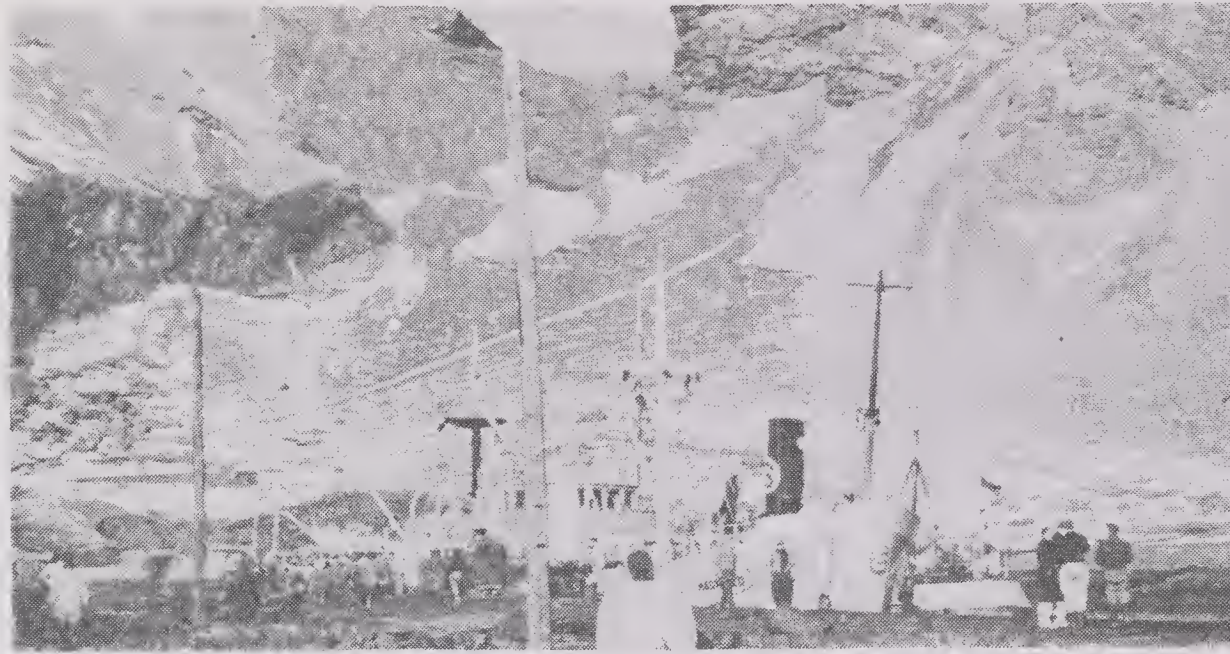
WORLD FISHERIES REVIEW (1950) AND OUTLOOK (1951): Current Production Situation: Fish production in 1950 was generally successful with a world increase of about 9 percent above the previous year, according to The State of Food and Agriculture--Review and Outlook, 1951, issued by the Food and Agriculture Organization.

Catches (see Table 1) increased 5 percent in North America, 2 percent in Europe, 27 percent in Japan, 67 percent in the Union of South Africa, and 2 percent in Latin America. The modest fisheries of Israel increased production as a result of calculated efforts from 4,200 metric tons in 1949 to 7,100 tons in 1950--69 percent. The Philippine fisheries apparently maintained their trend toward recovery, with an increase over the previous year.

Fishing from Hong Kong continued to increase, which may be indicative of the prevailing natural conditions of the South China Coast fisheries; a steady increase in supplies was present in Singapore, despite the falling off in supplies from the Indonesian fisheries. No major changes appear to have occurred in the natural availability of fish in Indochina and Thailand during the year, but both countries are affected by conditions which interfer-



TYPICAL OTTER TRAWLERS FISHING OUT OF THE AMERICAN FISHING PORT OF BOSTON, MASS.



NORWEGIAN FREIGHTER LOADING SALT FISH AT WESTMAN ISLANDS,
ICELAND, FOR DELIVERY TO SPAIN.

Region or Country	1950	1949	1946	1938
	..(Thousand Metric Tons).. 			
Europe	5,952	5,581	4,902	5,363
North America	3,672	3,509	3,070	3,250
Latin America	515	505	300	265
Asia:				
Japan	3,794	2,980	3,265	2/3,521
Africa:				
3 Countries ³ /.....	503	377	219	110
Total	14,436	12,952	11,756	12,509

SOURCE: OFFICIAL PUBLICATIONS AND COMMUNICATIONS, PLUS FAO ESTIMATES. FOR DETAILS BY COUNTRIES, SEE FAO FISHERIES BULLETIN, VOL. IV, NO. 4, JULY-AUGUST 1951.

1/ROUND FRESH WEIGHT: INCLUDES CRUSTACEANS AND SEAWEED IN A FEW CASES.

2/ADJUSTED TO COVER SAME TERRITORY AS POSTWAR DATA.

3/UNION OF SOUTH AFRICA, MOROCCO, AND ANGOLA.

ed with the dried-fish trade. The fisheries of India, Pakistan, and Ceylon showed slight improvement over the previous year. The Indian mackerel and the oil-sardine fisheries have been on the down-swing of one of the natural fluctuations which characterize those stocks, and the 1949-50 fishing season showed only slight improvement over the previous year.

Australian production fell by .11 percent during the period, despite substantial increases in certain

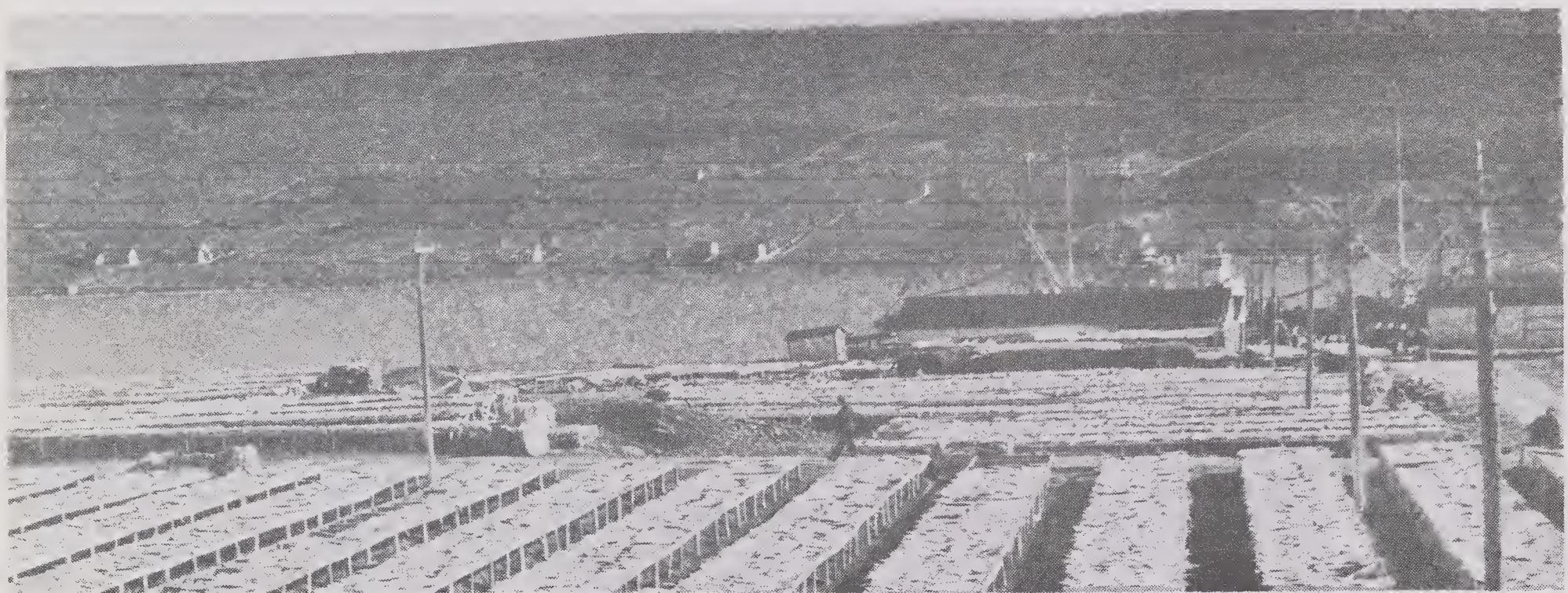
sections of the industry, notably in spiny lobster (crayfish).

The increases in 1950 brought production for the reporting countries up to 14 percent above the prewar (1938) catch, with Europe 11 percent above prewar, North America 13 percent, Japan 8 percent, Latin America almost double prewar, and South Africa, Morocco, and Angola 4 to 5 times prewar.

Prices: Fish prices did not rise as sharply as those for other food products, the increase during the fall of 1950 being mainly caused by a temporary shortage. Fish body oil, however, followed the sharp upward price trend of most other oils.

In Japan, prices paid to fishermen fell as a result of the improved food supply. Lack of experience among new operators in selling on a free market after a long period of controlled prices and distribution also temporarily contributed to the increase. In Hong Kong, there was an acute drop in fish prices due to the Chinese ban on imports of salted fish and to the rapid drop in the colony's Chinese population.

In Belgium, after a period of falling prices from 1947 to 1949, the trend reversed in 1950, owing to decreased landings and limited imports. Extremely high fish prices were quoted in France during some



COD BEING DRIED IN THE SUN ON "FLAKES" AT HARBOR GRACE, NEWFOUNDLAND, CANADA.



BRINGING IN A DRIFTER NET WITH FISH ABOARD A NETHERLANDS FISHING VESSEL.

periods of 1950, apparently due to short supplies. Prices fell during the first months of 1951, with large landings of low-price fish, such as hake and herring, but compared with many other countries, fish prices in France are still high.

After slightly lower prices in the first three months of 1950, average fish prices in Western Germany rose considerably in the second half of 1950, notably for whitefish. In general, recent fish prices in Western Germany are a little more than twice the prewar prices, which is considered reasonable compared with prices of other foodstuffs. Prices to fishermen in Norway for the 1951 season were raised by regulation to 15-20 percent above 1950 prices. In the domestic market retail prices increased some 16-17 percent.

The control of landing prices of fish in the United Kingdom was lifted in April 1950. Prices then fell sharply, but in October 1950, the trend reversed owing to shortage of supplies, caused by strikes and limitation of production by trawlers. The 1951 meat shortage gave fish prices an upward trend, despite an increase in landings.

In the U.S.A. average wholesale prices of fish increased 10 percent, from January 1950 to January 1951. Retail prices for fisheries products in the first quarter of 1951 were the highest on record for that time of the year, and 6 percent higher than a year earlier.

In Canada, the general price at landing in the Province of Newfoundland was lower in 1950 than in

1949 but showed an 8 percent increase in the rest of the country.

Costs of Operation: Rising costs are seriously affecting operations in all producing countries. Prices for fuel, net, and rope, as well as other items for maintenance and repair, are rising. Although construction of new craft is very expensive, recent experience has confirmed that, due to their higher efficiency, the new units are nevertheless more profitable than the old ones.

Some countries have their peculiar difficulties; in Western Germany for instance, the abolishment of a subsidy on fuel and oil more than doubled actual prices overnight. In Japan, the removal of government subsidies led to the doubling or trebling of the cost for fishing requisites. In the United Kingdom, the arrangements for subsidies to a certain part of the fleet had to be prolonged.

International Trade: There was a significant drop in the volume of international trade in fresh and frozen fishery products generally, while the trade volume for dried, salted, or smoked fish was only slightly lower than in 1949. (See Table 2)

This situation is mainly due to importing countries developing their own production, and to the adjustments in processing and in trade channels which the exporting countries make accordingly.

International trade in fish meal and oils has increased considerably.

Table 2 - Exports of Certain Fisheries Products from Principal Exporting Countries, 1938 and 1946-50

Commodity ^{1/}	No. of Countries	1950	1949	1948	1947	1946	1938
..... (Thousand Metric Tons)							
Fish, fresh or frozen	8	389.1	583.6	575.9	452.6	406.9	339.3
Fish, dried, salted or smoked	^{2/} 8	384.8	399.4	457.1	416.9	409.6	566.6
Fish, canned ^{3/}	^{2/} 9	110.1	104.8	125.8	151.5	145.3	99.8
Crustaceans and mollusks	7	69.6	75.2	66.7	65.8	43.1	72.4
Fish oils ^{4/}	7	90.4	68.6	85.9	70.6	58.2	145.5
Fish meal and fertilizers ...	5	116.3	47.6	83.2	28.3	27.9	124.6
Aquatic mammal oils and fats ^{4/}	5	15.3	17.0	36.1	46.7	18.6	13.2

SOURCE: OFFICIAL PUBLICATIONS AND SPECIAL REPORTS.

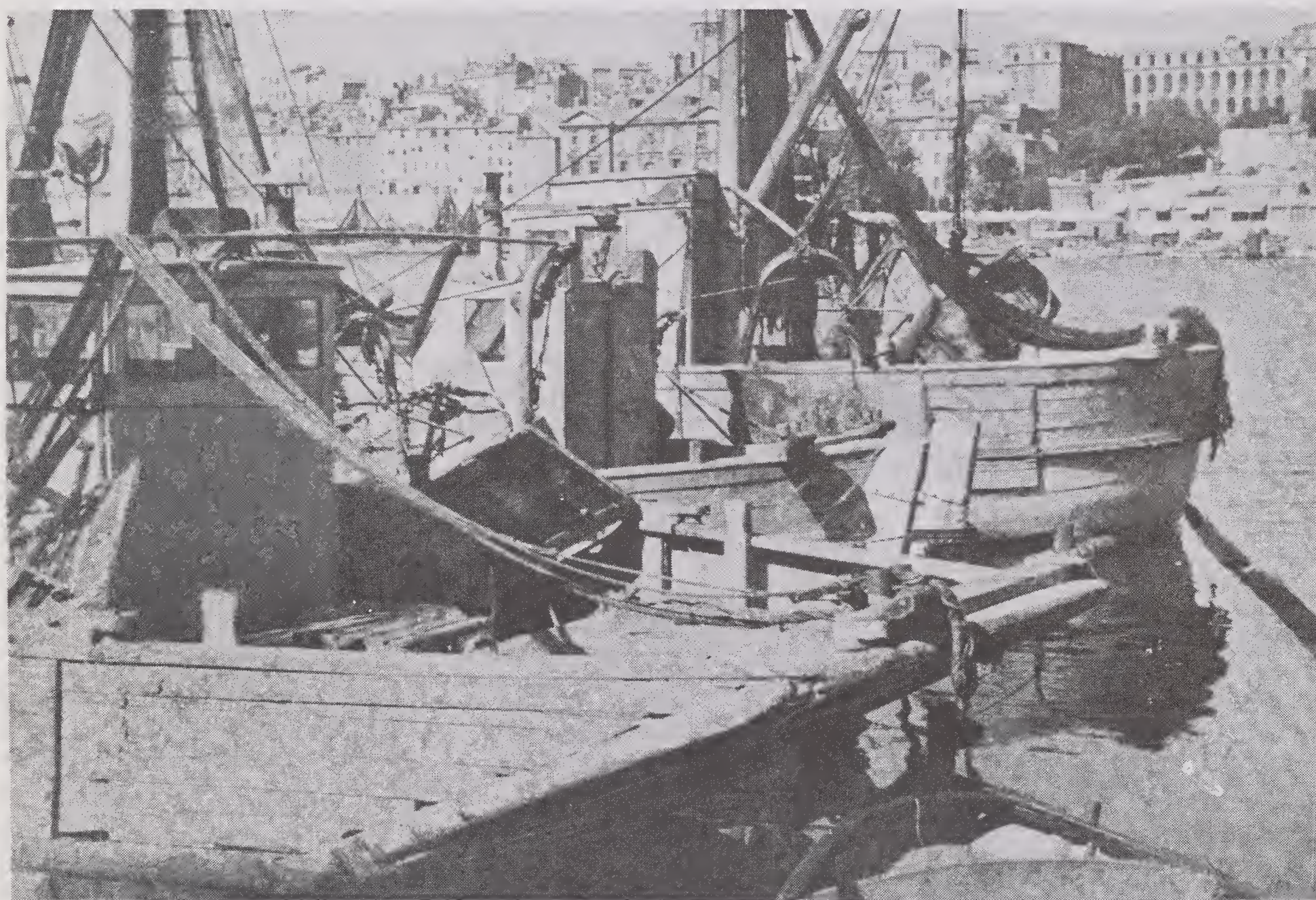
^{1/}INCLUDES RE-EXPORTS FOR NORWAY, 1938 AND 1946-48.^{2/}INCLUDES SOME CRUSTACEANS AND MOLLUSKS FOR BELGIUM.^{3/}INCLUDES CANNED CRUSTACEANS AND MOLLUSKS FOR UNITED KINGDOM AND SMALL QUANTITIES OF FRESH OR DRIED FISH FOR PORTUGAL.^{4/}AQUATIC MAMMAL OILS INCLUDED WITH FISH OILS FOR NETHERLANDS AND UNITED KINGDOM.

In the Far East, apart from Japan, the present situation makes it virtually impossible to resume the prewar volume of international trade in fisheries products. The possibility of an immediate liberalization of the fish trade in Europe vanished during the early part of 1951.

Fisheries Commodities Review: Direct consumption of fish for food did not increase in pro-

portion to the catch. In Europe and Africa the increase in catch was used for oil and meal production. In Europe also, much of the quantity used for human consumption was cured, but the use of fresh, frozen, or canned fish showed an increase in North America.

FRESH FISH: The total quantity of fish consumed fresh in 1950 did not increase materially.



VESSELS OF THE FRENCH TRAWLER FLEET IN THE HARBOR AT MARSEILLES.

An increase of over 300,000 metric tons in Japan compensated for declines which were particularly noticeable in Norway, Iceland, and the United Kingdom. Fresh fish supplies in Europe were somewhat unevenly distributed; in the United Kingdom large quantities of unsalable fish had to be sent to the fish-meal factories, while the German market was undersupplied.

FROZEN FISH: There was a slight drop in the world output of frozen fish in 1950, principally due to sharp production declines in the United Kingdom, Iceland, and Norway. The in-

crease in the Canadian output was not sufficient to compensate for the drop in other countries which, in many cases, was due to consumers' reluctance to buy frozen fish when fresh fish was available.

STOCKFISH: The total production of the main-producing countries increased from 11,600 tons in 1949 to 19,000 tons in 1950. The total output is still lower than it was in 1938 (25,000 tons), but due to a substantial increase in Norway's production, the prewar level is likely to be reached in 1951.



A SUNNY DAY ON THE LOFOTEN FISHING GROUNDS FREQUENTED BY NORWEGIAN FISHING VESSELS.

Table 3 - World Production (Product Weight) of Certain Fisheries Commodities^{1/} 1946-50

Commodity	No. of Countries	1950	1949	1948	1947	1946
		(Thousand Metric Tons)				
Fresh fish ^{2/}	14	3,238.9	2,965.5	2,884.0	3,622.9	-
Frozen fish ^{2/}	14	375.5	427.6	361.3	-	-
Cod, hake and similar species, wet-salted and dried-salted ^{3/}	13	312.0	258.7	215.5	254.7	185.4
Cod, hake, and similar species, dried (stockfish)	3	18.6	10.6	16.5	17.4	17.5
Herring and similar species, salted ^{4/}	16	444.7	569.9	506.5	462.5	516.2
Salmon, canned	4	124.2	151.9	133.9	156.6	130.6
Herring and similar species canned	19	379.5	323.1	259.0	254.7	242.0
Tunas, true mackerels and similar species, canned	10	139.0	101.1	110.5	96.6	80.8
Cod-liver oil	8	30.6	34.0	31.7	38.1	33.3
Oil from herring and similar species	6	151.8	100.2	124.7	113.4	103.3
Meal from herring and other species	8	348.7	261.2	301.9	227.8	223.6
Other fish meal ^{5/}	11	253.7	231.2	177.8	152.2	126.8

SOURCE: OFFICIAL COMMUNICATIONS.

^{1/}FOR SOME COMMODITIES THESE FIGURES ARE CLOSE TO WORLD TOTALS, FOR OTHERS, SUCH AS FRESH FISH, THEY DO NOT COVER ALL COMMODITIES.

^{2/}FROZEN FISH IS INCLUDED WITH FRESH FISH FOR NETHERLANDS, NEWFOUNDLAND, NORWAY FOR 1947.

^{3/}DRIED BASIS.

^{4/}INCLUDES SMOKED HERRING FOR SOME COUNTRIES.

^{5/}INCLUDES HERRING MEAL FOR DENMARK, GERMANY, AND UNITED KINGDOM.

SALTED COD, HAKE, ETC.: The world output increased from 259,000 tons in 1949 to 312,000 tons in 1950, which is well above the prewar level. Nearly all producing countries appear to have expanded their production in 1950, largely due to greater participation in the north-west Atlantic fisheries. It is doubtful, however, whether the world production in 1951 will be much above that for 1950. By and large, prices for salted cod in 1950 may have been about 10 percent below the 1949 level, but in 1951 a 10 percent net rise in prices was apparent in spite of much higher freight rates.

SALTED CLUPEIDAE (HERRING AND ALLIED SPECIES): The production of 16 countries declined from 570,000 tons in 1949 to 445,000 in 1950. Among the big producers, only the Netherlands maintained its level, deliberately limiting its production. Japan, Norway and the United Kingdom experienced a sharp decline in their salting of herring and allied species. Production was, however, sold with greater ease than anticipated and the 1951 output may be somewhat larger.

CANNED FISH: The canned tuna industry has been expanding considerably. In the U.S.A., the world's largest producer and consumer, production has increased from 30,000 tons of canned tuna and allied species in 1940 to 80,000 tons in 1950, a record figure. A tendency for prices to fall has been clearly evident as a result of increased production adding to stocks already carried over from 1950.

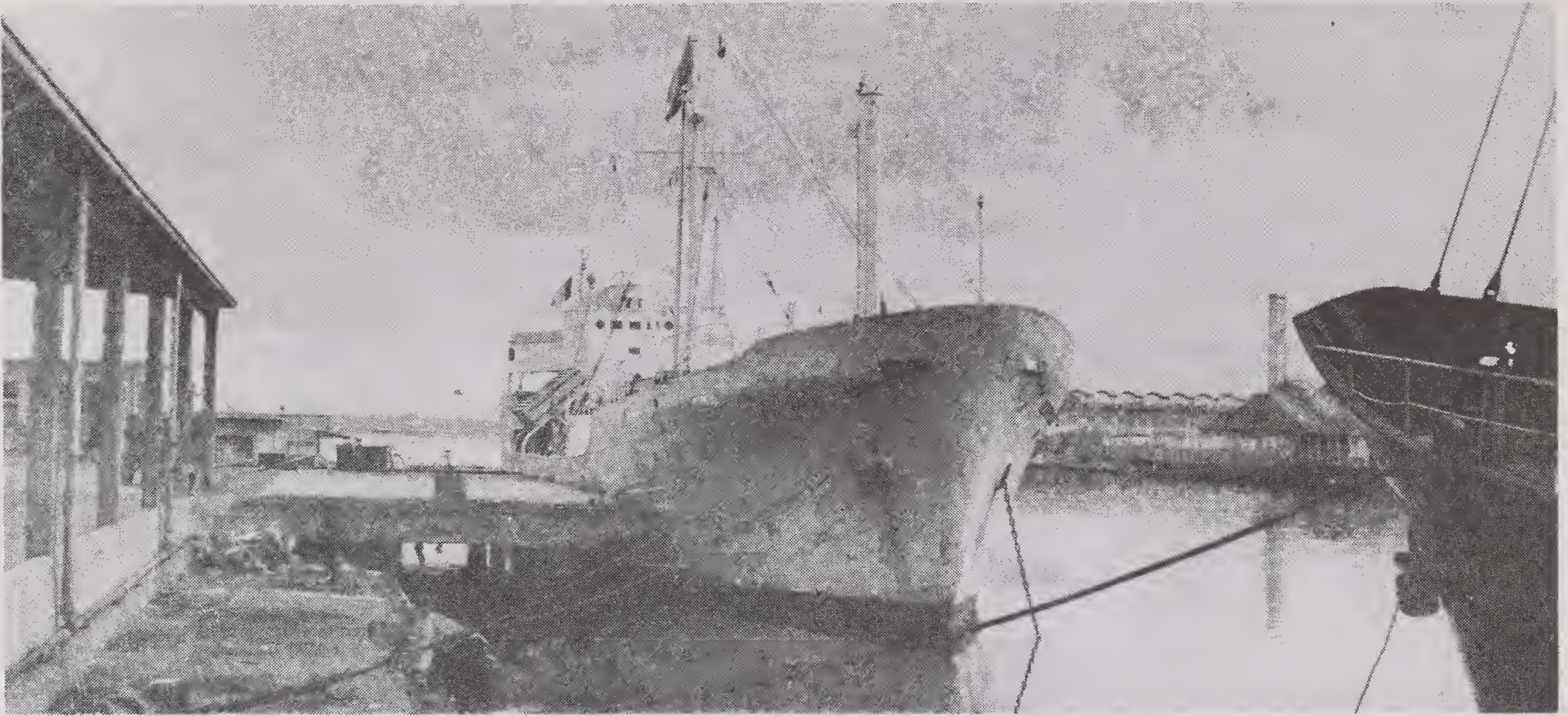
About 95 percent of the world's canned salmon is produced from catches landed from the North Pacific. World production (U.S.S.R. excluded) was 124,000 tons in 1950 compared with 151,900 tons in 1949. The decline in the U.S.A. resulted in a sharp rise of canned salmon prices between mid-July and mid-August 1950, with the retail price 26.8 percent higher in 1950 than at the end of 1949.

North American production of herring and similar species increased in 1950, but landings of Pacific pilchards seem likely to be lower for the 1951-52 season. In French Morocco, the production continues to rise, and canned pack in 1950 will likewise be higher than in 1949; still further increase is possible, as existing plants are not working at full capacity. The Portuguese sardine fisheries showed improved catches toward the end of 1950 and during the first few months of 1951, with a corresponding increase in the canned sardine output.

OILS AND MEAL: Traditional producers of oil and meal have expanded and improved their means of production and many new countries are entering the field. In the countries for which information is available, the quantity of round fresh fish reduced to oil and meal increased 30 percent over 1949. Evidence available so far indicate an even greater production of body oils and meal in 1951. Methods of oil and meal manufacturing have been greatly improved and the interest in the manufacture of oil from Clupeidae species, which has been apparent during the last few years, has been stimulated by the prevailing prices for fish meal and body oils. Owing to heavy competition and syn-



GERMAN TRAWLER ALONGSIDE DISCHARGING QUAY AT AUCTION HALL X, BREMERHAVEN. BASKETS AT SIDE ARE USED TO DISCHARGE FISH AND HOLD ABOUT 50 KG. OF FISH.



A TYPICAL ITALIAN TRAWLER USED FOR COD FISHING ON THE GRAND BANKS DOCKED AT LIVORNO (LEGHORN), ITALY.

thetic vitamin preparations, prices for liver oil are less favorable to the producer.

Outlook: As in many respects our knowledge of fish resources is lacking, future results of fishing operations can be estimated only with considerable uncertainty. However, under normal conditions similar to those prevailing in 1950-51,

the increased catching capacity will most likely lead to a corresponding increase in world catches. The greater interest in Clupeidae, as well as in various tuna species, may promote their relative importance. Attempts to intensify fresh-water fish culture may take longer to show up significantly in world production figures. World trade in fresh fish is not likely to increase, while



UNLOADING SKIPJACK TUNA CATCH AT ABURATSU, MIYAZAKI PREFECTURE, KYUSHU, JAPAN. FISH WERE CAUGHT IN THE RYUKYU AREA BY THE POLE-AND-LINE SKIPJACK VESSEL TIED UP AT THE LANDING.



THE AMERICAN FISHING PORT OF MONTEREY, CALIFORNIA, SHOWING FISHING VESSELS ANCHORED IN THE HARBOR.

frozen products may gain in popularity. Salted fish production may increase to a certain extent. Canning operations may be hampered by a tinplate shortage.

Fish prices have reached a high level, but unless operational costs are considerably reduced through a drop in the price of oil, coal, cordage, nets, etc., only the best possible equipment is likely to result in profitable fishing operations. The demand for fish and fish products seems likely to continue over the next year or two.

Fisheries Equipment: The growing interest in fisheries developments is taking increasingly concrete form in many countries; in others, the interest is still confined to wishful thinking.

In Europe, the postwar reconstruction and reconditioning of fishing fleets is more or less completed; in many countries, present fleets now surpass prewar efficiency. Landings have not, however, increased proportionately to the means of production; factors such as the prolonged trawler strike in Iceland, the voluntary catch restrictions in the United Kingdom, the unfavorable runs of migratory fish have had an adverse effect on fish production in many countries.

In Latin America, the mechanization of the fishing fleet is under way as is also the estab-

lishment of new facilities for quick freezing, canning, or reduction.

Since May 1950, Japanese fishing vessels have been allowed to extend their operations, and Japan is now permitted to send motorships to a limited area for tuna fishing. The fishing fleet is being restored, but the number of vessels is limited by law in order to prevent depletion of stocks.

In Hong Kong, a substantial mechanization of the fishing fleet has also taken place. In 1948, only one pair of junks was mechanized; now more than 60 vessels have been converted.

In Indonesia, mechanization is expanding with ECA assistance. It has also been extended in Ceylon, Singapore, Pakistan, and in India, where Japanese and Danish technicians have contributed to the development.

In Belgium, the number of craft is slightly less than prewar (461 as against 510), but total tonnage and horsepower has increased. The older vessels have been withdrawn from operation and new craft are being constructed.

In France, where the reconstruction of the fleet is now nearly completed, the tendency is towards stabilization at the present level. The



A TYPICAL SARDINE PURSE SEINER USED ON THE WEST COAST OF THE UNITED STATES. NOTE THE PURSE-SEINE NET ON THE TURN-TABLE ON THE STERN OF THE VESSEL.

fleet in general, while of a slightly lower total tonnage than prewar, is much more efficient, particularly the fleet operating at the Grand Banks, off Newfoundland.

In Denmark, the efficiency of the fishing fleet has considerably improved. In Norway, where the number of large units has increased, the total capacity of the fleet is now in excess of prewar with distant-water operations expanding particularly off Western Greenland. On the West coast of Sweden, the number of large craft (above 50 GRT) has been more than doubled. The Icelandic fleet with 52 trawlers is now approximately double its prewar number. Reconstruction of the German fleet has been carried on vigorously, and its capacity seems now to be stabilized at a level somewhat below prewar.

In Italy, government subsidies have been granted for a reconstruction program of 145 motor trawlers, and construction is under way. In Greece, larger craft enabling fishermen to operate more easily off the North coast of Africa have been launched. Portuguese trawlers supplying the fresh fish markets now number 70 percent more than prewar, and craft producing salted cod have increased by 15 percent, while the static level of the sardine fleet is possibly due to the very limited runs of fish during recent years. The expansion of the Spanish fleet, initiated in 1944, is still progressing; during recent years a great number of pair fishing units was built.

The United Kingdom's fleet with the exception of distant-water fishing vessels and some motorized herring craft, is rather obsolete and needs replacement. In Ireland, the coastal fleet is expanding, while the trawler fleet is deliberately limited to 4 units.

A three-year program has been initiated to modernize fishing methods and develop fresh-water production in Egypt. The sardine-fishing fleet is still expanding in Morocco. In the Union of South Africa and in South West Africa, larger motor boats for line and net fishing have been added to the inshore fishing fleet.

In Canada, the Atlantic coast trawler fleet is rapidly expanding as a result of the easing of trawler licence restrictions. In the U.S.A., the capacity of the fisheries continued to grow and by 1950 the number of fishermen had increased to 170,000 from 124,000 ten years earlier. For the same period, a 15 percent increase in the number of the craft is recorded.

It is expected that efforts to mechanize and modernize fleets during 1951-52 will show expanding results, especially in the more developed countries where increased efficiency can be expected within the limits of the present number and tonnage of the fleets. In the less developed countries, progress is likely to be concentrated on increasing the numbers of small mechanized craft.

* * * * *

SIXTH SESSION OF GATT CLOSES: The 34 countries which are Contracting Parties to the General Agreement on Tariffs and Trade ended their Sixth Session on October 26 at Geneva, Switzerland, after making decisions on some of the most important questions that have arisen during the four years of operation of the agreement. The session opened on September 17, lasting approximately 6 weeks, an October 30 news release from the U. S. Department of State reports.

Among the most significant actions taken were:

- (1) A move to strengthen and improve administration of the agreement by establishing an ad hoc committee to handle urgent business arising between the Sixth and Seventh Sessions;
- (2) Adoption of measures designed to make the General Agreement more workable by providing flexible procedures for conducting tariff negotiations among Contracting Parties and with countries desiring to accede to the agreement, without convoking full-scale tariff conferences of the Geneva-Annecey-Torquay Type;
- (3) Preparation of a draft international convention to facilitate the importation of commercial samples and advertising material, as well as draft recommendations on documentary requirements for importation of goods

and on consular formalities, which recommendations, if adopted by governments, will represent important practical steps toward realizing the objectives of the agreement;

- (4) Consideration of disputes arising under the operation of the agreement, including the granting of the United States request for suspension of the obligations between the United States and Czechoslovakia, hearing complaints against Belgian restrictions on imports of goods from the dollar areas, and hearing complaints against United States restrictions on imports of certain dairy products;
- (5) Preparation and publication of a report on quantitative restrictions and discriminations maintained for balance-of-payments reasons.

Accessions During Sixth Session: During the course of the Sixth Session, four governments--the Federal Republic of Germany, Peru, Turkey, and Austria--which had negotiated for accession to the agreement at Torquay last winter, became Contracting Parties to the agreement, following their signature of the Torquay Protocol to the agreement.

Torquay Protocol: The Torquay Protocol to the General Agreement set October 21, 1951 as the deadline for its signature by Contracting Parties

and by governments which negotiated at Torquay for accession to the agreement. At the Sixth Session the Contracting Parties extended this deadline to December 31, 1951, for Brazil, Denmark, and the United Kingdom; to March 31, 1952, for Korea; and to May 22, 1952 for the Philippines. Uruguay, which negotiated both at Annecy and at Torquay, but which has not yet signed either the Annecy or the Torquay Protocol, was granted to April 30, 1952, to sign both.

Complaints Against U. S. Import Restrictions: The delegations of the Netherlands, Denmark, Italy, New Zealand, Norway, Australia, France, Canada, and Finland entered complaints that the quantitative restrictions on importation of certain dairy products into the United States, which this Government has imposed under Section 104 of the Defense Production Act of 1950, had caused them injury and had nullified benefits granted to them under the General Agreement. They, along with other delegations, considered this a serious violation of the agreement and urged the United States to take prompt and effective action.

The United States delegation pointed out that the Executive Branch of the United States Government was vigorously urging repeal of this Section and asked the Contracting Parties to allow a reasonable time for completion of Congressional consideration of the matter before taking action. When the contracting Parties adjourned on October 26 they noted; (1) that the concessions granted by the United States to several Contracting Parties had been nullified; (2) that the circumstances are serious enough to justify a number of the Contracting Parties in withdrawing concessions which they had granted to the United States; and

(3) that the Executive Branch of the United States Government intended to seek repeal of Section 104. Without prejudice to the right of any Contracting Party to seek redress, the Contracting Parties advised those countries affected to wait a reasonable time for the situation to be rectified through the repeal of Section 104 and asked the United States Government to report, not later than the opening of the Seventh Session on the action it takes.

U. S. "Escape Clause" Action: The Contracting Parties approved a report from an intersessional working party which had found no conclusive evidence that the United States had violated the General Agreement in withdrawing certain concessions on women's fur felt hats under the "escape clause" provision in Article XIX of the agreement. The report recommended that the United States Government keep the matter under review and be prepared to consider restoring the concessions, in part or in whole, if it is found no longer necessary to withhold them. The United States delegation pointed out that steps have already been taken in the United States to keep the matter under constant review as suggested in the report.

Exceptions provided for under Article XX (II) of the General Agreement permit Contracting Parties to maintain, until January 1, 1951, certain import or export control measures justified by short-supply, price-control, or surplus conditions, which controls would otherwise be contrary to the agreement. The January 1, 1951, time limit had already been extended at the Fifth Session to January 1, 1952, and was further extended, at the Sixth Session, to January 1, 1954.

FOOD AND AGRICULTURE ORGANIZATION

SIXTH SESSION OF CONFERENCE CONVENED IN ROME: The Sixth Session of the Conference of the Food and Agriculture Organization of the United Nations convened in Rome, Italy, beginning November 19.

Representing fisheries interests on the United States Delegation were A. W. Anderson, Chief, Branch of Commercial Fisheries, U. S. Fish and Wildlife Service and Charles E. Jackson, General Manager, National Fisheries Institute.

Fisheries matters discussed included proposal to establish a Latin American Regional Fisheries Council as agreed upon by 15 nations at a meeting in Peru in September. (Since FAO furnishes the secretariat for such Councils and also pays certain expenses for documents, its approval of the agreement for establishing them is required.) After FAO approval five nations must ratify the agreement before the Council can come into being.

The other fisheries items on the agenda were concerned with the Program of Work of the Fisheries Division.

The Sixth Session of the Conference was the first convened at the new headquarters of the Organization in Rome, and also was the first of the biennial sessions held in accordance with a recent amendment to the FAO Constitution. Previous sessions of the Conference have been held annually.

The purposes of the FAO, which came into existence in 1945, are to raise levels of nutrition and standards of living, improve the efficiency of the production and distribution of food and agricultural products, and to better the conditions of rural populations, thereby contributing toward an expanding world economy. At present 66 governments comprise the membership of the FAO.

Immediately preceding the Sixth Session of the Conference, the Council of the FAO held its Thirteenth Session at Rome. This Session began on November 12.



Argentine Republic

HEALTH CERTIFICATES REQUIRED FOR SALTED AND DRIED FISH IMPORTS: The Argentine Ministry of Agriculture has recently issued a directive covering certain imports of fishery products, the October 6 issue of the Canadian Foreign Trade states. Henceforth, all salted and dried fish imported into Argentina must be covered by a health certificate from the country of origin. The fish must be packed in boxes lined with either greased paper or tin and the weight of each box must not exceed 50 kilograms (110 pounds).



Belgium

PROHIBITS SALE OF FISH LABELED AS "SARDINES": No small fish of the type commonly packed in the United States and Canada as sardines can be sold in Belgium under that name, the October 27 issue of Canadian Foreign Trade points out. Therefore, canners and exporters should keep in mind that only fish labeled with some description such as "herrings" will be acceptable for importation into Belgium.

The use of the word "sardine" in Belgium is restricted to fish of the Clupea alosa variety. It is reported that fish of any other type sold under the name "sardine" in Belgium are subject to seizure, and retailers, wholesalers, and importers concerned are subject to a heavy fine.



Costa Rica

NEW CUSTOMS LAW CHANGES EXPORT TAXES ON FISHERY PRODUCTS: Certain export taxes on fishery products have been increased by a new Costa Rican Tariff and International Payments Law published in La Gaceta of September 30 and effective on October 1, the American Embassy at San Jose reports.

Two provisions in the law are of interest to the fishery and allied industries in the United States. The first increases the export tax on tuna or any other fish, shellfish, or parts of these products that leave the country frozen, proceeding from refrigeration plants established ashore, to US\$2.00 per ton of 1,000 gross

kilograms (2,200 pounds). The former export rate was US\$1.50 per ton. The second increases the tax for transfer of fish or fish livers to motherships or transport ships to US\$5.50 per ton. The former export rate on this latter category was almost 50 percent lower.



Japan

REPORT OF FIFTH AND SIXTH MOTHERSHIP-TYPE TUNA EXPEDITIONS: The Japanese fifth and sixth mothership-type tuna expeditions consisted of two fleets, linked administratively, the July 14 Weekly Summary of SCAP's Natural Resources Section points out.

The first fleet, designated the fifth expedition, included the mothership Tenyo Maru No. 3 (3,689 metric tons) and 16 tuna boats. The mothership left Tokyo March 12, 1951, and returned to Japan June 28, 1951.



A SISTERSHIP OF THE TENYO MARU NO. 3. THESE ARE TYPICAL MOTHERSHIPS USED BY JAPANESE IN MID-PACIFIC TUNA EXPEDITIONS.

The second fleet, designated the sixth expedition, included the mothership Tenryu Maru (557 metric tons), with its auxiliary the Tosui Maru and eight tuna boats. The mothership left Tokyo April 10, 1951, and returned to Japan June 3, 1951.

Operations commenced in the western portion of the authorized fishing area at 138°-143° E. and 01°-07° N., and gradually shifted due eastward as far as 167° E. The first tuna boats of the fifth expedition began fishing operations March 21, 1951. By midnight, June 13, 1951, all fishing operations were discontinued. Vessels of the sixth expedition fished from April 20, 1951, to May 24, 1951.

The Tenyo Maru No. 3, mothership of the first fleet, received an estimated total of 4,295,000 pounds of fish, from which was produced: tuna frozen in round, 2,446,310 pounds; frozen fish fillets, 980,700 pounds; shark, 272,050 pounds; others, 136,570 pounds; total, 3,835,530 pounds. A few boats of this fleet, which operated after the final delivery of fish to the mothership, transported a small cargo of fish direct to Japan.

The tuna boats of the second fleet transported the major portion of their fish catch to Japan in their own holds. The mothership Tenryu Maru and the Tosui Maru brought about 479,300 pounds of fish preserved in cold storage to Japan, as follows: tunas, 361,580 pounds; marlins, 88,440 pounds; sharks, 18,830 pounds; others, 10,360 pounds; total, 479,210 pounds.

JAPANESE GOVERNMENT



Malaya (Including Singapore)

CERTAIN FISHERY PRODUCTS FREE FROM NEW IMPORT CONTROL POLICY: The new import control policy in both the Federation of Malaya and Singapore, regarding imports from hard currency areas other than Japan, places several canned fishery products

on the free commodity list. Canned herring, pilchards, salmon, and sardines may in the future be freely imported from any source.

The importation of certain dried fishery products must be approved by the Malayan Fisheries Officer, the October 20 Canadian Foreign Trade magazine states.

Any commodity not specifically mentioned in the revised Malayan Import Guide is, henceforth, prohibited import from hard-currency sources.

After twelve months of unprecedented commercial activity, the Malayan boom appears to have petered out. During the boom, which started in June 1950, the high earnings from exports were used to finance imports in increasing quantities and, in many cases, at prices higher than current values. In addition to the drop in export trade and the arrival of large quantities of goods, the present slackening in business activity results from the freeing from import control of several commodities, notably flour and canned fish, and also more extensive export application of export control to bring down the cost of living and to stop entrepôt trade between Singapore, Hong Kong, and the China mainland. As a result of over-importing and changes in import and export control, abnormal stocks are reported for a number of commodities, including canned fish.



Mexico

GUAYMAS SHRIMP INDUSTRY READIES FOR 1951-52 SEASON: The Guaymas shrimp fishing and freezing industries during September readied themselves for the opening of the 1951-52 shrimp fishing season on October 1, according to an October 8 American consular report from Guaymas. While all freezing plants were ready for a record season, 20 percent of the fishing fleet was unable to put to sea. This indicates that the Mexican Government loan to industry was still not a full reality.

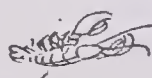
Most of the industry seemed to believe that if they did receive the money, it would be in the form of a direct government loan and could be treated almost as if it were a grant, without worrying about security or repayment. When approved, however, it came in the form of a loan secured by the government, but actually to be made by bankers. The bankers insisted on security. The industry, already over-extended, searched for unencumbered or acceptable security among its physical assets and sought permission from prior mortgageholders. This delayed the actual receipt of the money. Some US\$578,000 has been available since early September, but at the end of the month only 30 percent of this amount had actually passed to the industry.

Early fishing fleet reports indicate that the initial catches will be large and that the season will get off to a good start despite the many difficulties.

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SPINY LOBSTER SEASON ADVANCED: Mexico has advanced the opening date for the taking of spiny lobsters from October 15 to October 1, according to Mexico's October 5 Diario Oficial. The closed season for spiny lobsters now extends from March 16 until September 30 each year.

The same Order also removed the fresh-water crawfish (langostina, chacal, or acamaya) from regulation, and no closed season now prevails for this species.



Norway

U. S. PURCHASES OF NORWEGIAN FROZEN FISH INCREASES: Exports of Norwegian frozen fish to the United States have increased about 130 percent during the first eight months of 1951, the Norwegian Information Service announced on October 25.

Groundfish fillet exports, chiefly haddock and cod, were boosted from 1.3 million to 2.6 million pounds during this period. Norway has also found wide acceptance for fillets of ocean catfish, a new item introduced in this country by Norwegian exporters. Opportunities for ocean catfish exports to the U. S. are limited only by the supply, the article goes on to state. A good market is also envisioned for ocean perch fillets.



HADDOCK

The U. S. demand for Norwegian sardines is rather sluggish at the present time, but it may improve in the near future. The prospect for

higher canned sardine prices seems to be remote.

Another product Norwegian exporters believe could be pushed more vigorously in the U. S. market is herring tidbits, widely used for cocktail snacks. However it is realized higher exports of this product can only be achieved through a well-planned sales campaign, and by maintaining high quality.

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NORWEGIAN PARTICIPATION IN WESTERN GREENLAND FISHERIES, 1951: The 62 Norwegian vessels which took part in the fisheries off western Greenland for the past six months produced about 18,000 metric tons of salted cod this year, compared with last year's catch of 12,000 tons. In 1950, however, only 37 vessels participated in the Greenland fisheries, the Norwegian Information Service points out in a November 1 news release. Most of the salted cod, which has a first-hand value of 17 million kroner (US\$2,380,000), will be dried in and around the main fishing ports of Aalesund and Kristiansund, while 5,000 tons will be exported as is to Italy, and another 3,500 tons to Greece. The market value of the salted cod was about US\$4,195,800. In addition to the salted cod, about 300 tons of fresh halibut were shipped to Great Britain aboard the refrigerated M. S. Kolaastind.

Norwegian participation in the western Greenland fisheries is organized and financed in cooperation with an Aalesund ship-chandler firm which also takes care of supplies and marketing. By permission of Danish authorities, this firm has improved harbor facilities at the Greenland port of Faeringhavn, where the company operates a machine shop and a supply store employing 100 men in all. Also at Faeringhavn is a community center for Norwegian fishermen, which was opened last summer by the Norwegian fisheries Director.

Most of the Norwegian vessels that took part in the past season's Greenland fisheries were equipped with cod-liveroil extractors, and several had powerful two-way radio telephones which enabled the fleet to keep in constant touch with shore contacts in Faeringhavn. And, in case of shipwrecks or motor trouble, a Norwegian rescue and salvage vessel was near at hand, ready for action.

NORWEGIAN PARTICIPATION IN ICELANDIC HERRING FISHERIES, 1951: The annual herring fisheries, off the coast of Iceland attracted 185 Norwegian fishing vessels in the 1951 season, of which 16 were geared with ultra-efficient purse seines. The

total catch reached 16,600 metric tons, with a market value of about 23 million kroner (US\$3,216,000), compared with 10,900 tons in 1950, and 25,367 tons the year before. As expected, purse seining again proved its superiority over other types of gear. Most of the herring was caught 150 nautical miles north of Iceland. One vessel, M. S. Odd I, following directions of the Norwegian marine research vessel G. O. Sars, filled all of its 1,300 barrels with fat Iceland herring well over 100 nautical miles offshore. The larger part of this year's catch was used in the production of spiced, salted, and sugar-cured herring, whereas in former years the catch was converted to heavily salted herring.



The G. O. Sars spent several months cruising in the waters northeast of Iceland, going as far as the tiny volcanic island of Jan Mayen, which is inhabited only by five Norwegian meteorologists. It was 60 miles southeast of Jan Mayen that G. O. Sars a year ago discovered vast shoals of herring.

Returning from his last cruise aboard the research vessel, Norwegian fisheries consultant Finn Devold revealed that large quantities of cod had been discovered in the Arctic waters. He said the expedition confirmed the theories developed by Norwegian scientists as to the course followed by the herring on its trek from the Norwegian coast to Iceland and points northeast. If the fishermen had gone to Jan Mayen a little later in the season, Devold asserted, they would have found the waters teeming with herring.



Republic of the Philippines

FISHERIES REVIEW, 1950: The Philippine Director of Fisheries recently announced that the 1950 catch of fish and shellfish totaled 249,000 metric tons as compared with 203,000 tons for 1949, and 195,000 tons for 1948. This includes production from commercial licensed fishing vessels of at least 3 metric tons, fish ponds, and municipal and sustenance fisheries. Philippine fish requirements in 1949 were 493,000 metric tons. The shortage of 290,000 metric tons was partially filled by imports of 27,000 tons of fishery products and the balance was supplied by other protein foods, an October 25 American Embassy report points out.

The marine fishery resources of the Philippines is limited to narrow continental shelves surrounded by deep, warm seas, and these waters appear to be less productive than shallow, temperate seas.

The 1950 fish production program was aimed at the development of the inland fisheries. The present annual yield of about 177,900 acres of fish ponds is 25,000 metric tons of milkfish or bangos (Chanos chanos). It is estimated that large areas of brackish-water swampland scattered throughout the Philippines suitable for fishponds, when fully developed, are capable of producing 100,000 metric tons annually.

NOTE: SEE ALSO COMMERCIAL FISHERIES REVIEW, OCTOBER 1950, PP. 53-55.



Singapore

GOVERNMENT PROVIDES LOANS TO FISHERMEN: A plan has been adopted by the Singapore Government to provide loans to fishermen who want to go into the offshore fishing grounds but lack equipment, according to the October 20 Foreign Trade, a Canadian Department of Trade and Commerce publication. Supplies of fresh fish reaching Singapore have been reduced by half within the last 20 years in relation to the population and the prices have advanced substantially. Japanese specialized in Singapore's offshore fishing before World War II, but today this branch of the industry is almost non-existent. With this financial assistance, it is hoped that Malay and Chinese fishermen will be encouraged to exploit the rich resources in the South China Sea and increase the local supplies of fresh fish.



Spain

COTTON FISH NET INDUSTRY: Production: Spain's production of cotton fish nets totaled some 737 metric tons in 1950 and about 800 metric tons in 1949, according to an October 8 American consular report from Barcelona. The Spanish fish-net industry's capacity is 1,500 metric tons. Most nets are made solely from Egyptian long-staple cotton.

Spain's fish-net production is centered chiefly in Barcelona. There are also manufacturers at Bermeo, La Coruna, and Cambrils. The fish-net factories are entirely Spanish owned, and have been established since before the Spanish Civil War (1936-39).

Consumption: Spain has an important fishing industry located in the provinces on the Atlantic Coast and in some of the provinces on the Mediterranean. Domestic production has been geared chiefly to satisfying the needs of this industry.

Foreign Trade: Spain does not import fish nets. As in 1950 there were no imports in 1951 and very negligible exports.

About 955 pounds of fish nets were shipped to Chile in 1950. During the period 1945-49 the average annual cotton fish-net exports amounted to 24,849 pounds (US\$54,507) or less than two percent of total output. Most exports of fish nets between 1945-49 were shipped to Chile, Morocco, Peru, Portugal, and in 1949 to Norway. A small shipment was exported to the United States in 1949.

Chronic shortages of raw cotton, especially in 1949-50, have been the principal impediment to Spanish fish net exports. The fish-net manufacturers are interested in shipping to the United States to earn foreign exchange with which to increase cotton imports and thus operate at full capacity. If substantial orders were forthcoming from this dollar area, the Spanish government probably would issue import licenses covering enough cotton to permit the manufacture of some 700 metric tons of exportable fish nets. If proper trading connections can be established in the United States, the industry believes that there is a good possibility of developing an American market for Spanish fish nets, according to reports.

Fish net exports are at present subject to Spanish export license procedure.

Spain's eight fish net manufacturers belong to the Union de Fabricantes Exportadores de Redes, S. A. (Association of Fish Net Exporting Manufacturers, Inc.) Barcelona. Orders received for nets from abroad normally are channelled through the Association. The Association has no overseas sales organization or representatives.

Trinidad

DRIED FISH REMOVED FROM IMPORT RESTRICTIONS: Dried fish is one of the many items recently permitted to be imported into Trinidad without applying for an import license, according to an October 12 report from the American Consulate, Port of Spain. This relaxation in controls is to enable the Colony to purchase essential materials which are in short supply.



United Kingdom

TEN COUNTRIES ATTEND INTERNATIONAL WHITE FISH CONFERENCE: Ten countries responded to Great Britain's invitation to an International White Fish Conference held in London on September 17, according to an October 2 American Embassy report from London. The conference was held to study British suggestions for limiting the supply of white fish catches during periods of oversupply in the United Kingdom market. The British proposal was that if restrictions should be placed on British catches during periods of glut, fishermen of other countries landing fish in the United Kingdom should also be placed under restrictions. No agreement was reached between the delegates and the meeting was adjourned until October 21. Countries furnishing delegates to this meeting included Belgium, Iceland, Norway, Denmark, Republic of Ireland, Netherlands, France, Sweden, and Western Germany. Polish observers were also present at the meeting.

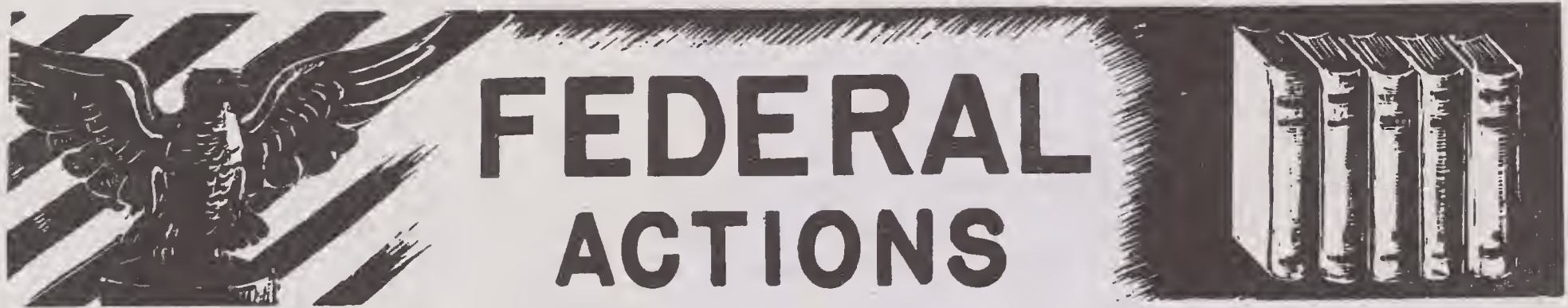


Union of South Africa

FISH PROTEIN USED TO FORTIFY GRAIN STARCH FOODS: A neutral fish flour with a protein content of better than 89 percent has been developed in South Africa for use in fortifying cereal starch foods, notably wheat and mealy flours. The fish meal is tasteless, odorless, does not prejudice the color of the product, and has an effective life of 90 days, according to the October 13 issue of the Canadian Foreign Trade.

This fish protein meal promises to aid the diet of the country, assist the fishing industry, and reduce the need for foreign exchange to purchase wheat since South Africa is dependent on imported wheat for domestic milling. It is reported that admixtures of up to 20 percent neutral fish flour are practicable.





Department of Commerce
NATIONAL PRODUCTION AUTHORITY

SULFURIC ACID SUPPLY OUTLOOK BRIGHTER: Although individual sulfuric acid producers are to be limited to 90 percent of their 1950 rate of sulfur use, the over-all industry's total output of sulfuric acid in the next six months probably will be slightly greater than last year's rate of production, the National Production Authority told the Sulfuric Acid Industry Advisory Committee on October 23.

The purpose of the meeting was to discuss tentative orders which NPA has drafted to place certain restrictions on the production and use of sulfuric acid and on the use of sulfur.

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SUPPLEMENT 4 (REPAIR AND CONVERSION OF SEAGOING VESSELS) TO M-1 REVOKED: Supplement 4 (Repair and Conversion of Seagoing Vessels) to NPA Order M-1 was revoked effective October 22. Priority assistance for the Repair and Conversion of Seagoing Vessels Program, formerly covered by this regulation, is now provided for under CMP regulations.

For details see: Suppl. 4 (Repair and Conversion of Seagoing Vessels) Revocation, issued Oct. 22, 1951, to M-1 (Iron and Steel).

NOTE: SEE COMMERCIAL FISHERIES REVIEW, MARCH 1951, P. 47.

* * * * *

INVENTORY CONTROL: The inventory control regulation and Interpretations 1, 2, and 3 to this order were amended by NPA on October 22. This regulation's purpose is to prevent the accumulation of excessive inventories of materials in short supply. It does this by limiting the quantities of such materials that can be ordered, received, or delivered.

The revised regulation tightens inventory controls by (1) limiting inventories of a greater number of products and materials than were covered heretofore; (2) providing a more specific definition of items in inventory to include many materials formerly classified as "in process;" and (3) listing in the regulation all existing inventory controls of other NPA orders and regulations.

For details see: NPA Reg. 1 (Inventory Control) and Int. 1, 2, and 3, as amended October 22, 1951.

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CONTROLLED MATERIALS INVENTORIES: CMP Regulation No. 2 regarding inventories of controlled materials was amended on October 12. This regulation provides for the prevention of the accumulation of excessive inventories of controlled materials. It does this by limiting the quantities of such materials that may be ordered, received, or delivered.

For details see: CMP Reg. 2 (Inventories of Controlled Materials), as amended Oct. 12, 1951.

* * * * *

ADJUSTMENTS REGARDING SHIPMENTS OF CONTROLLED MATERIALS: Two amended directions were issued by NPA on October 22 which required users of steel, copper, or aluminum to cancel or adjust outstanding orders by not later than October 31 when necessary to bring the totals within fourth-quarter allotments under the Controlled Materials Plan.

For details see: Amend. Dir. 7 (Shipments of Controlled Materials in the Fourth Quarter of 1951 which were Scheduled for Shipment in the Third Quarter of 1951) to CMP Reg. No. 1--Basic Rules of the Controlled Materials Plan; issued Oct. 22, 1951.

Amend. Dir. 3 (Shipments of ...) to CMP Reg. No. 6--Construction Under the Controlled Materials Plan; issued Oct. 22, 1951.

* * * * *

TRANSFER OF RATINGS AND QUOTAS: Conditions under which a company's priority ratings, materials quotas, and other authorizations granted it by NPA may be transferred, along with its other assets and obligations, when it is sold as a going concern to a new owner, are spelled out in NPA Regulation 6 issued on November 5.

For details see: NPA Reg. 6 (Transfer of Quotas and Ratings; Transfer of a Business as a Going Concern), issued Nov. 5, 1951.

NOTE: FULL TEXTS OF MATERIALS ORDERS MAY BE OBTAINED FROM NATIONAL PRODUCTION AUTHORITY, WASHINGTON 25, D. C., OR FROM ANY DEPARTMENT OF COMMERCE REGIONAL OR FIELD OFFICE.



Defense Production Administration

BASIC MATERIALS AND ALTERNATES LIST ISSUED: Issue No. 3 of List of Basic Materials and Alternates was released on October 29 by the Conservation Division of the Defense Production Administration. This list is compiled to reflect the relative availability of certain basic materials and to help save critical materials by indicating more available alternates. It will be published about every two months.

Nearly 400 materials are grouped alphabetically within their commodity classifications according to whether the supply of each is (1) insufficient for essential demand, (2) in approximate balance with essential demand, or (3) fair to good.

For details see: List of Basic Materials and Alternates, Issue No. 3, released Oct. 29, 1951.



Economic Stabilization Agency

OFFICE OF PRICE STABILIZATION

CANNED MAINE SARDINE CEILING PRICES ESTABLISHED: Specific dollars-and-cents ceiling prices for sales by canners of Maine sardines were established by OPS on October 17 by the issuance of Ceiling Price Regulation 85. This regulation became effective October 22, 1951, and superseded prices established by GCPR and CPR 22.

The statement of considerations points out that a price of \$10.50 for a case of 100 standard $\frac{1}{4}$'s keyless cans of Maine sardines packed in oil is a fair and equitable price because the Maine sardine industry has found itself in a most difficult economic position. This increase of 15 percent over the average price which would be permissible under CPR 22 is necessary to take account of the low volume of fish available this year, and the small size of the fish.

Prices in the order apply only to the 1951 pack, and it is expected that these prices will be revised according to the pack and circumstances existing in 1952. The ceiling prices are the same for soybean or cottonseed oil, mustard sauce, or tomato sauce packs.

Dollars-and-cents ceiling prices are established for those items customarily distinguished for pricing purposes by the industry. Differentials of various styles of pack which follow industry distinctions have been recognized. Prices specified are gross prices and customary allowances and discounts must be deducted from them.

These increased prices will be reflected at the wholesale and retail level by the percentage markups provided for in CPRs 14, 15, and 16.

CPR 85—CEILING PRICES FOR CANNED MAINE SARDINES

Pursuant to the Defense Production Act of 1950, as amended, (Pub. Law 774, 81st Cong., Pub. Law 96, 82nd Cong.), Executive Order 10161 (15 F. R. 6105), and Economic Stabilization Agency General Order No. 2 (16 F. R. 738), this Ceiling Price Regulation 85 is hereby issued.

STATEMENT OF CONSIDERATIONS

This regulation establishes specific dollars-and-cents ceiling prices for sales by canners of Maine sardines.

The Maine sardine industry has found itself in a most difficult economic position for reasons that were both unpredictable and uncontrollable. The number of sardines caught off the coasts of Maine and Southern Canada fell off 70 percent from the catch of last year. In 1950 the industry packed 3,844,164 standard cases. The average pack for the preceding ten years was 3,142,167 cases. At the present time there is no carry-over of last year's pack at the canner's level. As of September 15 of this year 663,186 cases had been packed. According to a 10-year average, 62 percent of the pack is prepared by September 15. On this basis, the 1951 pack should be approximately 1,000,000 cases. The size of the individual fish decreased in an even greater proportion. Where normally four to six fish were put into the standard size can, this year's catch re-

quires that upwards of twenty fish be packed into this same size can. Thus, with a greatly decreased volume of fish to pack and with vastly increased labor expense to pack the very small size fish, unit direct costs have advanced sharply. The result has been a tremendous increase in cost per case to turn out this year's pack of Maine sardines.

The ceiling prices of this industry are currently established by CPR 22. Under that regulation, canners' ceiling prices were founded on the 1949 pack, which they selected as their CPR 22 base. That year saw a normal size pack of 3,074,523 standard cases. The sardine canning companies had filed their Form No. 8's in May and June of this year before this year's extremely short pack became an accepted fact. Nor was it known at that time that the run of small fish would continue in the majority for the rest of the season contrary to the normal run of sardines. The additional labor and overhead necessary to pack the sardines this year were not reflected in the prices filed on those forms. When the full situation was realized, a meeting of the Sardine Sub-Committee of the East Coast and Gulf Canned Fish Advisory Committee was held at Portland, Maine, on September 26, 1951. Facts pertinent to this year's operations were reviewed including the cost studies upon which this regulation is based. The results of these studies and the recommendations of the Committee have been given full

consideration in arriving at these adjusted ceiling prices.

The Director has decided that a price of \$10.50 for a case of 100 standard keyless cans of Maine sardines packed in oil is a fair and equitable price. This increase of 15 percent over the average price which would be permissible under CPR 22, is necessary to take account of the low volume of fish available this year, and the small size of fish. This price is approximately equivalent to that recommended by the Industry Advisory Committee. Even with this increase this price is still below that which prevailed during the years of 1947 and 1948.

It must be emphasized that the prices herein shall apply only to the 1951 pack, due to the abnormal factors discussed above. It is expected that these prices will be revised according to the pack and circumstances existing in 1952.

This regulation establishes dollars-and-cents ceiling prices for those items customarily distinguished for pricing purposes by the industry. Differentials of various styles of pack which follow industry distinctions have been recognized. The prices specified are gross prices and customary allowances and discounts must be deducted from them. These increased prices will be reflected at the wholesale and retail level by the percentage markups provided for in CPR's 14, 15, and 16, and will maintain for Maine sardines, normal price relationships with other competitive canned fish.

In formulating this regulation, the Director of Price Stabilization has consulted with industry representatives to the extent practicable and has given full consideration to their recommendations. In his judgment the provisions of this regulation are generally fair and equitable and are necessary to effectuate the purposes of Title IV of the Defense Production Act of 1950, as amended. The ceiling prices established by this regulation are higher than the prices prevailing just before the date of issuance of this regulation.

As far as practicable, the Director of Price Stabilization gave due consideration to the national effort to achieve maximum production in furtherance of the Defense Production Act of 1950; to prices prevailing during the period from May 24, 1950, to June 24, 1950, inclusive; and to relevant factors of general applicability.

REGULATORY PROVISIONS

Sec.

1. What this regulation does.
2. Where this regulation applies.
3. Ceiling prices for Maine sardines.
4. Conditions and terms of sale.
5. Adjustments.
6. Records.
7. Petition for amendment.
8. Prohibitions.
9. Penalties.
10. Definitions.

AUTHORITY: Sections 1 to 10 issued under sec. 704, 64 Stat. 816, as amended; 50 U. S. C. App. Sup., 2154. Interpret or apply Title IV, 64 Stat. 803, as amended; 50 U. S. C. App. Sup. 2101-2110, E. O. 10161, Sept. 9, 1950, 15 F. R. 6105; 3 CFR, 1950 Supp.

SECTION 1. What this regulation does. This regulation establishes specific dollars-and-cents ceiling prices for most sales of canned Maine sardines when such sales are made by the canners of those sardines. These ceiling prices supersede those established by the General Ceiling Price Regulation and by Ceiling Price Regulation 22.

SEC. 2. Where this regulation applies. The provisions of this regulation are applicable in the 48 States of the United States and in the District of Columbia.

SEC. 3. Ceiling prices for Maine sardines. Your ceiling prices for Maine sardines are as listed below. These prices are for cases of Maine sardines packed in the listed container sizes and types and styles of pack, f. o. b. car at the railroad shipping point nearest the cannery.

A case means a lot of one hundred (100) $\frac{1}{4}$'s cans or a lot of forty-eight (48) $\frac{3}{4}$'s cans. The price of a case includes the cost of the shipping container.

Container size and type	Style of pack	Ceiling price per case
Keyless standard pack:		
$\frac{1}{4}$'s.....	In soybean or cottonseed oil.	\$10.50
$\frac{1}{4}$'s.....	In mustard sauce...	10.50
$\frac{1}{4}$'s.....	In tomato sauce...	10.50
$\frac{3}{4}$'s.....	In mustard sauce...	9.00
$\frac{3}{4}$'s.....	In tomato sauce...	9.00

Container size and type	Style of pack	Ceiling price per case
Can pack with key:		
With keys wrapped:		
$\frac{1}{4}$'s.....	In soybean or cottonseed oil.	12.00
$\frac{1}{4}$'s.....	In mustard sauce...	12.00
$\frac{1}{4}$'s.....	In tomato sauce...	12.00
$\frac{1}{4}$'s.....	In peanut oil.....	12.00
With keys in cartons:		
$\frac{1}{4}$'s.....	In soybean or cottonseed oil.	12.00
$\frac{1}{4}$'s.....	In mustard sauce...	12.00
$\frac{1}{4}$'s.....	In tomato sauce...	12.00
$\frac{1}{4}$'s.....	In peanut oil.....	12.00
With keys decorated tops:		
$\frac{1}{4}$'s.....	In soybean or cottonseed oil.	11.25
$\frac{1}{4}$'s.....	In mustard sauce...	11.25
$\frac{1}{4}$'s.....	In tomato sauce...	12.00
With keys plain:		
$\frac{1}{4}$'s.....	In soybean or cottonseed oil.	11.00
$\frac{1}{4}$'s.....	In mustard sauce...	11.00

SEC. 4. Conditions and terms of sale. The ceiling prices set forth in section 3 of this regulation are gross prices and you must continue to apply all customary delivery terms, discounts, allowances, guarantees, and other usual and customary terms and conditions of sale; which you had in effect between Dec. 19, 1950, and Jan. 25, 1951 inclusive, except that in no instance shall the gross selling price of any item covered by this regulation exceed the ceiling price for such item as set forth in section 3.

SEC. 5. Adjustments. For container sizes, or types and styles of pack of Maine sardines not listed in section 3 of this regulation, the ceiling price shall be a price determined by the Director of Price Stabilization to be in line with the prices listed in that section 3. Such determination shall be made upon written request addressed to the Fish Branch, Office of Price Stabilization, Washington 25, D. C., showing the size and type of container listed in section 3 to which your unlisted product is most similar and your price differential between the unlisted product and most similar listed product as of June 24, 1950 or the latest date previous to June 24, 1950 on which both products were sold or offered for sale by you. You may not sell your product under this section 5 until you receive written notification of the ceiling price which has been approved for such product. Until you have received a price under this section 5, you may use the prices you filed pursuant to CPR 22, if approved, or your GCPR prices.

SEC. 6. Records. After the effective date of this regulation, if you sell or exchange Maine sardines in the course of trade or business or otherwise deal therein, you must make, preserve, and keep available for examination by the Director of Price Stabilization for a period of two years, accurate records of each sale, showing:

- (1) The date of sale;
- (2) The name and address of the buyer and of the seller;
- (3) The price contracted for or received, with a recording of all allow-

ances, discounts, and other terms and conditions of sale;

(4) The quantity, style of pack, and the container size and type.

SEC. 7. Petition for amendment. If you wish to have this regulation amended, you may file a petition for amendment in accordance with the provisions of Price Procedural Regulation 1, Revised (16 F. R. 4974).

SEC. 8. Prohibitions. On or after the effective date of this regulation, regardless of any contract, agreement, or other obligation, you shall not sell or deliver, and no person in the course of trade or business shall buy or receive any commodity covered by this regulation at prices higher than those established by this regulation, and no person shall agree, offer, solicit, or attempt to do any of the foregoing. The price limitations set forth in this regulation shall not be evaded, whether by direct or indirect methods, in connection with any offer, solicitation, agreement, sale, delivery, purchase, or receipt of, or relating to any of the commodities covered by this regulation, alone or in conjunction with any other commodity, or by way of any commission, service, transportation, or other charge, or discount, premium, or other privilege, or by tying-agreement or other trade understanding, or by changing the selection or style of processing or the canning, wrapping or packaging of the commodities covered in this regulation, or in any other way.

SEC. 9. Penalties. Persons violating any provision of this regulation are subject to the criminal penalties, civil enforcement actions, and suits for damages provided for by the Defense Production Act of 1950, as amended.

SEC. 10. Definitions. When used in this regulation the term: (a) "Maine Sardines" means canned Atlantic sea herring (ordinarily *Clupea harengus*) of the sizes customarily packed and sold under the trade designation of Maine sardines.

(b) " $\frac{1}{4}$'s" means drawn cans of the following measurements: $300.5 \times 404 \times 014.5$ or $405 \times 211 \times 016$.

(c) " $\frac{3}{4}$'s" means three piece cans or drawn cans of the following measurements: $308 \times 412 \times 112$ or $304 \times 508 \times 105$.

(d) "Canner" means a person who preserves Maine sardines by processing and hermetically sealing them in metal containers.

(e) "You" means the person subject to this regulation.

Effective date. This regulation is effective October 22, 1951.

NOTE: The record keeping and reporting requirements of this regulation have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

MICHAEL V. DiSALLE,
Director of Price Stabilization.

OCTOBER 17, 1951.

CORRECTION ISSUED FOR CERTAIN CANNED SALMON CEILING PRICES IN CPR 65: Clerical errors in listing prices of three items in section 4 (a) of OPS Ceiling Price Regulation 65 (Ceiling Prices for Canned Salmon), issued on July 30, 1951, were corrected in the August 11 issue of the Federal Register. The corrected prices, which became effective August 8, are as follows:

COPPER RIVER SOCKEYE, 1/2 LB. FLAT.....\$20.00 INSTEAD OF \$19.00

PUGET SOUND SOCKEYE, 1/2 LB. FLAT.....\$21.00 INSTEAD OF \$20.00

C. R. CHINOOK FANCY, 1/2 LB. FLAT.....\$22.00 INSTEAD OF \$21.00

NOTE: SEE COMMERCIAL FISHERIES REVIEW, SEPTEMBER 1951, PP. 47-50.

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PRICING STANDARDS ISSUED AND TAILORED REGULATIONS PLANNED: Development of tailored regulations for manufacturers and processors has been ordered by the Office of Price Stabilization. Wherever possible, these regulations will provide "identifiable" ceilings for the benefit of buyers and sellers, with emphasis on dollars-and-cents ceilings, according to OPS. The program contained in Price Operations Memorandum No. 13, dated October 18, has the following objectives:

Quickly building a more stabilized price structure, to guard the nation against the heavier inflationary pressures anticipated in the winter and spring;

Supplanting present interim regulations, and their unavoidable disadvantages, with tailored regulations adopted specifically for each industry or segment of an industry and based on its own particular problems and practices;

Applying identifiable dollars-and-cents ceiling prices in every case this can be done, to make clear to the seller and buyer the legal prices that can be charged and paid;

Reducing ceiling prices under those that now prevail wherever permitted by the specific requirements of law and by the over-all requirement that ceilings must be generally fair and equitable to an industry; and

Increasing ceiling prices in instances where, because of cost increases, existing ceilings are no longer generally fair and equitable.

In the memorandum various pricing techniques are suggested for the guidance of the commodity division directors. While dollars-and-cents ceilings are to be used wherever possible, it is recognized that they usually must be restricted to standardized goods historically sold at substantially uniform prices.

Other techniques available include a straight freeze, where a suitable base period with a satisfactory price level can be found; a modified freeze, where it is possible to find a suitable base period providing prices which can be adjusted to reflect more recent costs; a formula technique, setting ceilings on the basis of some markup (seller's own historical markup or a specified percentage markup) over certain elements of cost.

In addition, general rules for price levels are set out in the standards included in the memorandum.

For details see: Price Operations Memorandum No. 13, dated Oct. 18, 1951.

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MANUFACTURING ORDERS, MANDATORILY EFFECTIVE, PROVIDE FOR OPTIONAL ADJUSTMENT OF CEILINGS UNDER CAPEHART AMENDMENT: In simultaneous moves, OPS ordered on November 9 the general manufacturers' and machinery regulations (CPRs 22 and 30) to become mandatorily effective December 19, and at the same time issued supplements to each regulation providing for optional adjustment of ceilings under the terms of the so-called Capehart Amendment to the Defense Production Act of 1950, recently passed by Congress.

These supplements will allow manufacturers covered by the two regulations to calculate adjustments of their ceiling prices under the Capehart Amendment. This amendment provides for inclusion of costs in addition to those provided in the two manufacturing regulations and gives a later cut-off date for figuring cost increases.

These supplements are the first of a series of regulations which will be issued by the agency to carry out the provisions of the amended law. These two supplements are in effect self-executing.

Originally issued April 25, the general manufacturers' regulation (CPR 22) covers durables, many processed foods (including canned fish), and many other manufactured goods. The machinery order (CPR 30), issued May 4, governs ceilings on many automotive and truck parts, aircraft parts, machinery of all kinds, farm equipment, fabricated structural steel shapes and bars, ships, and similar products.

These regulations have been in effect on an optional basis in recent months. However, most manufacturers covered by CPRs 22 and 30 will have to price under those regulations and their supplements by the mandatory effective date of December 19.

Manufacturers who are eligible for adjustments but who do not wish to recalculate their CPR 22 and CPR 30 ceilings immediately may elect to use the supplements at a later time. As soon as applications are received by OPS under the supplements, manufacturers may use the adjusted ceilings, although the agency intends to review them as promptly as possible, and retains authority to revise them at any time.

Applications must be filed on Public Form 100 available at Regional and District offices of OPS.

The Director of Price Stabilization said that "undoubtedly the supplements and General Overriding Regulations will result in some increases in manufacturers' ceilings."

These are the principal differences between the manufacturing regulations as they were issued and the supplements:

(1) Under CPRs 22 and 30, any of four calendar quarters between July 1, 1949, and June 30, 1950, can be used as a base period for finding pre-Korean prices and costs; under the supplements, manufacturers can use only certain 1950 periods--either the period, January 1 to June 24, 1950, or the two 1950 quarters provided in the original regulations.

(2) CPRs 22 and 30 permit cost increases to be figured from the end of the base quarter selected by the manufacturers. The supplements provide for three alternative methods: increases in cost from the date on which the manufacturer received the highest price between January 1 and June 24, 1950, or June 24, 1950,

for all his commodities, or from the last day of the two 1950 base-period quarters of the regulations.

(3) The two manufacturing regulations provide increases in labor costs up to March 15, 1951, and increases in most materials to either December 31, 1950, or March 15, 1951, depending upon the material involved; the supplements make July 26, 1951, the cut-off date for both labor and materials.

(4) CPRs 22 and 30 take into account only changes in the cost of factory labor and manufacturing materials, while the supplements allow inclusion of all cost increases, including increases in overhead costs, except those considered "unreasonable or excessive."

In general, the items which have been excluded as items of cost in figuring adjusted ceilings under the supplement conform to well known and sound rules of accounting. Some of the exclusions or limitations:

Any depreciation in excess of normal depreciation; any distribution of profits, such as bonuses, payments of any profit sharing plans to workers or management or dividends; interest; capital expenditures; excessive expense accounts or entertainment costs; income or profit taxes; inventory losses, and any other non-operating cost. Increases in charitable contributions are recognized only to the extent permitted under the income tax laws.

By making either the regulations or the Capehart supplements compulsory, OPS has made it possible for manufacturers wishing to take advantage of the increases offered by the law to make only one adjustment in their prices. Moreover, in drafting the supplements, agency officials have attempted to retain as much as possible the pricing methods and techniques of the original regulations, thus making it possible for manufacturers to use many of the calculations they have already made.

In applying for adjustments under the supplementary regulations, therefore, manufacturers will be following tested methods for computing increased costs since Korea, and for this reason the agency is making the supplements virtually self-executing. Applications, of course, are always subject to later review.

The option to use the supplements will remain open, but any manufacturer using them must adjust the ceilings for all products covered by CPR 22 and CPR 30, although under certain conditions adjustments may be made for just a unit of a business.

Most complex problem facing the agency, OPS officials said, was the handling of overhead costs, since it is seldom that all overhead costs are allocated to every individual commodity. Moreover, in many companies it is customary to figure overhead on an arbitrary, estimated or assumed volume of production and sales rather than upon actual production and sales.

In general, these supplements allow manufacturers to use their established methods of allocating overhead costs as much as possible. But where records are insufficient to complete overhead calculations, the rules require that any unallocated factory overhead be related to the cost of production, and that any unallocated general overhead be related to sales.

Usually, overhead is figured on an annual basis, to provide an adequate period for measuring production or sales and take into account costs which are not part of the day-to-day operating expenses. Under the terms of the amended act,

however, it was impossible to use an annual basis. Thus, overhead computations will be made on the basis of a comparison of costs incurred in the first half of 1951 with actual costs in the first half of 1950.

Actual overhead costs in the first half of 1951, however, may be adjusted to reflect any changes in prices, wages, or salaries up to July 26, 1951. Selection of alternative periods for figuring overhead costs must be made if either half year is unrepresentative because of a strike, flood, fire or similar event.

CPR 22 was first issued April 25, 1951, with an effective date of May 28, 1951.

CPR 30 was first issued May 4, 1951, with an effective date of May 28, 1951.

Effective date of both manufacturing regulations was postponed until July 2, 1951, at the request of many manufacturers who said they needed additional time to complete their calculation of ceilings.

On June 30 OPS issued General Overriding Regulation 13, providing that manufacturers who had started to price under CPR 22 and CPR 30 would continue to do so, but allowing others to remain under the general freeze order. This step was taken because the 30-day extension of the Defense Production Act for the month of July prohibited rollbacks.

On July 30 GOR 13 was revoked and August 13 was set as the new effective date.

On August 9 the mandatory effective date of the regulation was postponed indefinitely, pending clarification of the amendment and completion of regulations to carry out the terms of the amended law.

For details see: Supplementary Regulation-17--Adjustments Under Section 402 (d) (4) of the Defense Production Act of 1950, As Amended, dated Nov. 9, 1951, to CPR 22 (Manufacturers' General Ceiling Price Regulation).

Amdt. 33 (Mandatory Effective Date), dated Nov. 9, 1951, to CPR 22.

Revision 1 to Supplementary Regulation 1--Alternative Method for Determining Ceiling Prices by Adjusting Ceiling Prices Established Under the General Ceiling Price Regulation Rather Than Base Period Prices, dated Nov. 9, 1951, to CPR 30 (Machinery and Related Manufactured Goods).

Supplementary Regulation 4--Adjustments Under Section 402 (d) (4) of the Defense Production Act of 1950, as amended, dated Nov. 9, 1951, to CPR 30.

Amdt. 20 (Mandatory Effective Date), dated Nov. 9, 1951, to CPR 30.

OPS Trade Guide (OPS-TP-30)--General Manufacturers (Supplementary Regulation 17 to CPR 22), dated Nov. 9, 1951.

OPS Trade Guide (OPS-TP-31)--Machinery and Related Manufactured Goods (Supplementary Regulation 4 to CPR 30 and Supplementary Regulation 1, Revision 1 to CPR 30), dated Nov. 9, 1951.

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TIGHT COOPERAGE AND TIGHT-COOPERAGE STOCK CEILING PRICES ISSUED: A tailored regulation controlling the price of tight-cooperage (including food barrels) and

the cooperage stock from which they are made was issued by OPS on October 19. (CPR 86--New Tight Cooperage). It applies to manufacturers and sellers of tight cooperage and tight-cooperage stock in the United States and Territories and Possessions. Ceilings in some cases are dollars-and-cents prices and in other cases are derived by percentage markups or a combination of both. It became effective October 24.

For details see: CPR 86 (New Tight Cooperage), issued Oct. 19, 1951.

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VEGETABLE PARCHMENT TAILORED REGULATION PROPOSED: A proposed tailored regulation that would spell out dollars-and-cents ceilings on seven basic vegetable parchment grades was discussed by members of the Vegetable Parchment Industry Advisory Committee on October 17 in a meeting with OPS officials. Ceilings on related weights and grades under the proposed regulation would be determined by applying differentials to the dollars-and-cents prices.

Vegetable parchments are water-insoluble and are widely used for wrapping moist and oily foods, including some fishery products. They are made by treating paper materials with acid, glycerine, and other chemicals.

For details see: News release OPS-GPR-931, dated Oct. 17, 1951.

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FISH MEAL AND SCRAP CEILING PRICES EXTENDED TO HAWAII: Because Hawaii was not covered by CPR 39 (which set ceiling prices for fish scrap and fish meal on the Pacific Coast), Amendment 1 to this regulation was issued on September 20 by OPS to make ceiling prices the same in both places for these commodities.

Ceiling prices for fish scrap and fish meal produced in the Territory of Hawaii have been established by the General Ceiling Price Regulation (GCPR). However, normally, prices of fish scrap and fish meal produced in the Territory parallel the prices for mainland-produced fish scrap and fish meal. Ceiling Price Regulation 39, issued May 29, 1951, removed the mainland products from GCPR coverage, but Hawaiian fish meal and scrap continued under GCPR. Therefore, Amendment 1 to CPR 39 issued on September 20 establishes uniform dollar-and-cents ceiling prices on bulk sales at the processor level for fish meal and scrap produced in the Territory of Hawaii, based on the ceiling prices established for Pacific Coast points by CPR 39.

Since no fish solubles and specialty fish feed products are produced in the Territory, the provisions of CPR 39 affecting those products will have no application in the Territory at the present time.

This amendment also provides that if you import fish meal or fish scrap into the continental United States through a Pacific coast port of entry, or if you import fish meal or fish scrap into the Territory of Hawaii, your ceiling price for each grade of fish meal or scrap is the same as the per ton, bulk, f.o.b. ceiling price of Pacific Coast or Territory of Hawaii processors for fish meal or fish scrap of the same protein content.

For details see: Amendment 1 (Extending Coverage to Territory of Hawaii), dated Sept. 20, 1951, to OPS CPR 39 (Ceiling Prices of Certain Marine Feed Products Sold by Processors, Importers, and Distributors).

* * * * *

PUERTO RICO SALTED COD CEILING PRICES RAISED: Ceiling prices on sales of salted cod in Puerto Rico were increased 2 cents a pound at all levels by the Office of Price Stabilization on September 26. Amendment 2 to CPR 51 was issued to assure continued supply from Newfoundland.

The full text of Amendment 2 to CPR 51 follows:

**CPR-51—FOOD PRODUCTS SOLD IN
PUERTO RICO**

NEW PRICES FOR THE SALE OF CODFISH

Pursuant to the Defense Production Act of 1950, as amended, Executive Order 10161 (15 F. R. 6105), and Economic Stabilization Agency General Order No. 2 (16 F. R. 738), this Amendment 2 to Ceiling Price Regulation 51 is hereby issued.

STATEMENT OF CONSIDERATIONS

This amendment revises the dollar and cents prices established for distributors of salted codfish in Puerto Rico under section 2.1 of the food regulation for that territory. This revision is required because of the increase in the landed cost of the fish.

As noted in the Statement of Considerations accompanying Ceiling Price Regulation 51, about 95 percent of the codfish consumed in the Territory is imported from Newfoundland. Arrangements for the supply of codfish are made on an annual basis between representatives of the Puerto Rican importers and the Newfoundland Association of Fish Exporters, Ltd., otherwise known as NAFEL.

Negotiations with NAFEL for the supply of salted codfish for the coming year commenced in August. NAFEL requested a contract price which was \$2.00 in excess of last year's contract price and \$4.00 per hundredweight above the price for the codfish in April 1951. It was on the April contract price that the dollar and cents ceiling prices established in CPR-51 were computed, and the increase sought by the Newfoundland suppliers would have required changing the pres-

ent \$0.20 per pound ceiling at retail to \$0.25 per pound, an increase of 25 percent on about the most important item in the Puerto Rican food economy. Negotiations were halted upon advice to the importers that the Territorial Office of Price Stabilization would refuse to recommend approval of such a drastic price increase without a well-documented justification of the need therefor.

No codfish has thus far been received from Newfoundland during the month of September, and inventories have now reached the point where, in the absence of additional supplies of Newfoundland codfish within the next several weeks, stocks on hand will be exhausted.

Negotiations were continued when the NAFEL modified its asking price to \$16.67 per hundredweight, a reduction of \$1.00 from its original request. Subsequently, the Canadian Government, through the Commercial Secretary attached to the Embassy in Washington, engaged in a series of conversations with officials of the Office of Price Stabilization, ultimately reporting that it was the opinion of the Canadian government offices that the prices requested by NAFEL were justifiable.

A contract which provides for a landed cost of codfish at \$16.67 per hundredweight has already been signed by NAFEL and the Puerto Rican importers. New ceiling prices are established, therefore, upon the basis of the price which the importers will have to pay under the new contract. This amendment to CPR-51 establishes a ceiling price of \$18.30 per hundredweight on sales to wholesalers, a wholesale ceiling price of \$19.20 per hundredweight, and a retail ceiling price of \$0.22 per pound.

Sellers of codfish in Puerto Rico at all levels of distribution are general distributors and the ceiling prices established by this amendment will not reduce their percentage margins below the customary percentage margins they received in the period May 24-June 24, 1950, for the group of commodities they sell.

In formulating this amendment the Director of Price Stabilization consulted with NAFEL, the importers, wholesalers and retailers, and has given full consideration to their recommendations. In the judgment of the Director, this amendment is necessary to effectuate the purposes of Title IV of the Defense Production Act of 1950, as amended.

AMENDATORY PROVISIONS

Section 2.1 (b) of Ceiling Price Regulation 51 is amended to read as follows:

(b) *Ceiling prices.* Ceiling prices for salted codfish are established as follows:

Salted codfish:

Sales to wholesaler (per 100 lbs.)	--	\$18.30
Sales at wholesale (per 100 lbs.)	--	19.20
Sales at retail (per lb.)	-----	.22

(Sec. 704, 64 Stat. 816, as amended; 50 U. S. C. App. Sup., 2154)

Effective date. This Amendment 2 to Ceiling Price Regulation 51 is effective September 26, 1951.

EDWARD F. PHELPS, JR.,
Acting Director of Price Stabilization.

SEPTEMBER 26, 1951.

NOTE: FULL TEXTS OF PRICE ORDERS MAY BE OBTAINED FROM THE OFFICE OF PRICE STABILIZATION, WASHINGTON 25, D. C., OR FROM THE REGIONAL OPS OFFICE IN YOUR AREA.

WAGE STABILIZATION BOARD

GENERAL WAGE PROCEDURAL REGULATION ISSUED: A General Wage Procedural Regulation was issued on September 20 by the Wage Stabilization Board. This regulation establishes the procedural requirements for obtaining rulings and requesting approval of the Wage Stabilization Board for adjustments in compensation.

For details see: General Wage Procedural Regulation, dated Sept. 20, 1951.



Department of the Interior

DEFENSE FISHERIES ADMINISTRATION

FISHERY MARKET NEWS SERVICE ASSIGNED DFA FIELD ACTIVITIES: Field offices of the Defense Fisheries Administration have been discontinued in order to effect an economy in the operation of this defense agency, according to an October 25 announcement by Administrator Albert M. Day.

The seven Market News Service field offices of the U. S. Fish and Wildlife Service's Branch of Commercial Fisheries have been assigned the Defense Fisheries Administration field office functions in their respective areas. These offices, with some aid, as needed, from other Sections of the Service's Branch of Commercial Fisheries, will handle DFA field activities, and will also serve in a liaison capacity between the fishery and allied industries in their regions and the Washington DFA office.

No reduction or change in the Washington staff of the Defense Fisheries Administration is contemplated. This cooperation between the Service's Branch of Commercial Fisheries and the Defense Fisheries Administration will result in a workable operation in handling current field problems.

Market News Service field offices, personnel in charge, and areas covered are as follows:

<u>OFFICE LOCATION</u>	<u>EMPLOYEE IN CHARGE</u>	<u>AREA COVERED</u>
ROOM 10, COMMONWEALTH PIER BOSTON 10, MASSACHUSETTS TELEPHONE: LIBERTY 2-1513-4 TELETYPE: BS-130	J. J. O'BRIEN	MAINE TO RHODE ISLAND, INCLUSIVE
155 JOHN STREET, ROOM 504 NEW YORK 38, NEW YORK TELEPHONE: BEEKMAN 3-4382-3 TELETYPE: NY-1-1809	H. M. BEARSE	CONNECTICUT TO DELAWARE, INCLUSIVE
18 SOUTH KING STREET HAMPTON, VIRGINIA TELEPHONE: 3-3360-9 TELETYPE: HPT. VA-80	C. D. STEWART	MARYLAND TO GEORGIA, INCLUSIVE
1100 DECATUR STREET NEW ORLEANS 16, LOUISIANA TELEPHONE: MAGNOLIA 1674-5 TELETYPE: NO-42	S. C. DENHAM	FLORIDA TO TEXAS, INCLUSIVE
200 NORTH JEFFERSON STREET CHICAGO 6, ILLINOIS TELEPHONE: RANDOLPH 6-2183-4 TELETYPE: CG-1426	A. ALBANO	GREAT LAKES AREA
POST OFFICE BUILDING SAN PEDRO, CALIFORNIA TELEPHONE: TERMINAL 2-5354 TELETYPE: ZA-88-034	V. J. SAMSON	CALIFORNIA
421 BELL STREET TERMINAL SEATTLE 1, WASHINGTON TELEPHONE: MAIN 0740-1 TELETYPE: SE-211	C. M. REARDON	OREGON, WASHINGTON, ALASKA

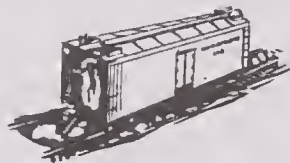


Interstate Commerce Commission

INCREASED EXPRESS RATES AND CHARGES AUTHORIZED: Increased Railway Express Agency rates and charges were authorized by the Interstate Commerce Commission. A decision in Docket Ex Parte No. 177 (Increased Express Rates and Charges, 1951) was made by ICC on October 23. Among the findings included in that decision of interest to the fishery industry are the following:

1. ALL FIRST-CLASS RATES AND CHARGES UNDER 100 POUNDS GRADUATED IN 1-POUND UNITS: INCREASE BY 30 CENTS PER SHIPMENT; 100 POUNDS AND OVER: INCREASE BY 30 CENTS PER 100 POUNDS; AND ALL MULTIPLES OF FIRST-CLASS RATES AND CHARGES: INCREASE PROPORTIONATELY, MINIMUM CHARGE \$1.50 PER SHIPMENT.
2. ALL SECOND-CLASS RATES AND CHARGES: INCREASE TO 75 PERCENT OF THE CONTEMPORANEOUS FIRST-CLASS RATES AND CHARGES, MINIMUM CHARGE \$1.50 PER SHIPMENT.
3. CANCEL FIRST-CLASS POUND RATES AND APPLY FIRST-CLASS RATES AS INCREASED IN (1) ABOVE, MINIMUM CHARGE \$1.50 PER SHIPMENT.
4. COMMODITY RATES AND CHARGES: NOT TO BE ELIMINATED FOR ARTICLES OF FOOD AND DRINK. ON ARTICLES OF FOOD AND DRINK, UNDER 100 POUNDS: INCREASE BY 22.5 CENTS PER SHIPMENT; 100 POUNDS AND OVER: INCREASE BY 22.5 CENTS PER 100 POUNDS, MINIMUM CHARGE \$1.50 PER SHIPMENT. (THE GREATEST PERCENTAGE OF FISHERY PRODUCTS EXPRESS SHIPMENTS FALL IN THIS CATEGORY.)
5. SPECIFIC CHARGES STATED IN CENTS PER CONTAINER PUBLISHED ON RETURNED EMPTY CONTAINERS: INCREASE BY 25 PERCENT. EMPTY CONTAINERS SUBJECT TO CHARGES BASED ON FIRST OR SECOND-CLASS RATES: INCREASE ON BASIS OF THE INCREASED FIRST OR SECOND-CLASS RATES, MINIMUM CHARGE \$1.50 PER SHIPMENT.
6. ALL C.O.D. SERVICE CHARGES: INCREASED BY 25 PERCENT.
7. CARLOAD SHIPMENTS SUBJECT TO FIRST OR SECOND-CLASS RATES: INCREASE AS PROVIDED IN (1) OR (2) ABOVE.
8. ALL LOCAL AND JOINT INTERNATIONAL RATES AND CHARGES BETWEEN POINTS IN THE UNITED STATES AND CANADA: INCREASE TO SAME EXTENT AS AUTHORIZED FOR APPLICATION WITHIN THE UNITED STATES.

The Railway Express Agency was authorized to establish and maintain on the basis of this decision rates and charges to become effective not later than December 15, 1951, upon 15 days notice as provided in the Interstate Commerce Act. Tariffs have already been filed making most of the increases authorized above effective November 15, 1951.



Department of State

TRIPARTITE NEGOTIATIONS FOR A NORTH PACIFIC FISHERIES CONVENTION: The United States Government has accepted Japan's invitation to participate in Tripartite (Canada, Japan, and the United States) Negotiations for a North Pacific Fisheries Convention, scheduled to commence at Tokyo, Japan, on November 5, 1951.

Informal discussions regarding North Pacific fisheries have been conducted during the past few months between the Governments concerned. In convening this meeting, the Japanese Government is carrying out the provisions of Article 9 of the Treaty of Peace signed at San Francisco on September 8, 1951. Provision was made in that Article for Japan promptly to begin negotiations with the Allied Powers so desiring for the conclusion of agreements providing for the regulation or limitation of fishing and the conservation and development of fisheries on the high seas.

The United States Delegation is as follows:

DELEGATE

WILLIAM C. HERRINGTON
SPECIAL ASSISTANT TO THE UNDER SECRETARY
DEPARTMENT OF STATE

ALTERNATE

MILTON C. JAMES
ASSISTANT DIRECTOR
FISH AND WILDLIFE SERVICE
DEPARTMENT OF THE INTERIOR

MEMBER

WARREN F. LOONEY
OFFICE OF THE SPECIAL ASSISTANT TO THE UNDER SECRETARY
DEPARTMENT OF STATE

ADVISERS

EDWARD W. ALLEN,
ALLEN, HILEN, FROUDE, DEGARMO AND LEEDY, SEATTLE
COMMISSIONER, INTERNATIONAL FISHERIES COMMISSION
AND MEMBER, PACIFIC FISHERIES CONFERENCE

MILTON C. BROODING
CALIFORNIA PACKING CORPORATION, SAN FRANCISCO, CALIF;
CHAIRMAN OF EXECUTIVE COMMITTEE
PACIFIC FISHERIES CONFERENCE

RICHARD S. CROKER
CHIEF, BUREAU OF MARINE FISHERIES
DEPARTMENT OF NATURAL RESOURCES
STATE OF CALIFORNIA

DONALD P. LOKER
GENERAL MANAGER, HIGH SEAS TUNA PACKING COMPANY
SAN DIEGO, CALIFORNIA; MEMBER, PACIFIC FISHERIES
CONFERENCE

HAROLD E. LOKKEN
MANAGER, FISHING VESSEL OWNERS ASSOCIATION, SEATTLE,
WASHINGTON; MEMBER, PACIFIC FISHERIES CONFERENCE

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ITALY SIGNS TORQUAY PROTOCOL TO GATT: The Government of Italy on October 18 signed the Torquay Protocol to the General Agreement on Tariffs and Trade at the headquarters of the United Nations in New York. The provisions of the protocol tariff concessions, which were initially negotiated between the United States and Italy but which have been withheld pending Italy's signature, will become effective on November 17, thirty days after Italy's signature, an October 22 Department of State news release announces.

The scope of United States negotiations with Italy at Torquay was limited because the two countries had concluded much more extensive negotiations at Annecy, France, in 1949. The concessions exchanged at Torquay, however, supplement those previously negotiated at Annecy and should therefore be considered as a part of a comprehensive whole.

At Torquay, Italy granted new reductions in duties or bindings of existing duties against increase on various agricultural and industrial products imported into Italy from this country. However, fishery products were of minor importance.

Fishery items in the United States tariff affected include canned anchovies and antipasto. The United States import duty on anchovies (valued not over 9 cents per pound including the weight of the immediate container) was bound at 22 percent ad valorem, and the duty on antipasto (valued not over 9 cents per pound including the weight of the immediate container) was reduced from 44 percent ad valorem to 22 percent ad valorem. However, United States imports of these items in 1950 were relatively insignificant.

In negotiations with other countries at Torquay, Italy granted concessions on many items (including fishery products) in which United States exporters have an interest, and these concessions will apply to imports from the United States.

Italy, in negotiations with other countries at Torquay, reduced its import duty on kippered herring (canned in oil of the same fish or in tomato sauce) from 30 percent to 20 percent, and also reduced its duties on "substitutes for caviar" and canned mussels.

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INDONESIA SIGNS TORQUAY PROTOCOL TO GATT: The Government of Indonesia signed on October 19 the Torquay Protocol to the General Agreement on Tariffs and Trade at the headquarters of the United Nations in New York. Concessions which were initially negotiated between the United States and Indonesia at Torquay (which have heretofore been withheld) will become effective November 18, according to a Department of State news release dated October 22.

At Geneva in 1947 the Netherlands Government negotiated tariff concessions under the General Agreement on behalf of Indonesia, which became a Contracting Party to the agreement in its own name by action of the Contracting Parties in 1950. At Torquay, Indonesia for the first time negotiated in its own name.

Concessions exchanged between the United States and Indonesia at Torquay supplement those which had been negotiated at Geneva in 1947. No fishery products are included.



Eighty-Second Congress (First Session)

OCTOBER 1951

Both the House and Senate adjourned sine die on October 20. Pending bills did not die with adjournment; they remain in committee or on the calendar where they can be taken up after the 82d Congress returns for its second session next January.

Listed below are public bills and resolutions introduced and referred to committees, or passed by the Eighty-Second Congress (First Session) and signed by the President, that affect in any way the fisheries and allied industries. Public bills and resolutions are shown in this section only when introduced and if passed when they are signed by the President. However, the more pertinent reports, hearings, or chamber actions on some of the bills shown in this section from month to month are also listed.

BILLS AND RESOLUTIONS INTRODUCED:

Tuna Import Duty: H. R. 5693 (Camp) - A bill to amend the Tariff Act of 1930, so as to impose certain duties upon the importation of tuna fish and for other purposes; to the Committee on Ways and Means.

Undersized Fish--To Prevent Shipment in Interstate Commerce: H. R. 5803 (Weichel) - A bill to prevent the shipment in interstate commerce of illegal undersized fish; to the Committee on Merchant Marine and Fisheries. ("Provides that the sending, shipping, and transportation in interstate commerce of fish, undersized or otherwise illegal according to the law of the State wherein such fish were netted, taken, possessed, transported, or shipped, shall be a Federal offense.")

Water Pollution Prevention: H. R. 5742 (Abbitt) - A bill to encourage the prevention of water pollution by allowing amounts paid for industrial waste treatment works to be amortized at an accelerated rate for income-tax purposes; to the Committee on Ways and Means.

CHAMBER ACTIONS:

Collisions at Sea: On October 1 the Senate passed without amendment and cleared for the President H. R. 5013, to authorize the President to proclaim regulations for preventing collisions involving water-borne craft upon the high seas and in waters connected therewith.

Defense Production Act Amendment: On October 4 the Senate passed without amendment S. 2170 by 49 yeas to 21 nays, to amend the Defense Production Act of 1950, regarding price ceilings for manufacturers and processors, after rejecting two Capenart amendments.

Tuna Import Duties: On the call of the Consent Calendar on October 15, the following bill, among others, was passed by the House: H. R. 5693, to impose certain duties on the importation of tuna fish, amended. (As passed, provides for a duty of 3 cents a pound on imports of fresh and frozen tuna, whether or not whole. Also, the U. S. Tariff Commission is directed to undertake an investigation of the competitive position of the domestic tuna industry, including the effect of imports of fresh or frozen tuna fish on the livelihood of American fishermen, and to report the results of this investigation to the Congress on or before January 1, 1953. The Secretary of the Interior is directed to make a comprehensive study of the long-range position of the domestic tuna industry and recommend such measures as may be appropriate to promote necessary adjustments so that the industry may achieve and maintain a sound position in the domestic economy. Report to be submitted to Congress by Jan. 1, 1953.)

COMMITTEE MEETINGS:

Defense Production Act Amendment: House Committee on Banking and Currency on October 11 ordered reported to the House S. 2170 to amend

the Defense Production Act of 1950, regarding price ceilings for manufacturers and processors. The bill was amended to change the period which reflects the highest level of prices prevailing during a representative base period from 6 months to a year (July 1, 1949, to June 24, 1950, inclusive).

Fats and Oils: House Committee on Banking and Currency on October 20 deferred action, until after the House convenes in January, on H. R. 5792, repealing section 104 of the Defense Production Act of 1950, dealing with fats and oils.

Tuna Imports: House Committee on Ways and Means: The Camp Subcommittee on tuna imports met on October 8 in connection with its study and investigation of the effect of imports on domestic fishermen and canners of tuna. Meeting with the group were representatives of the Tariff Commission, State Department, and the Treasury Department. Under discussion was the report of the Tariff Commission containing recent data on imports of tuna and on the current slump in domestic tuna fishing and canning. Subcommittee adjourned until October 10 when it held an executive meeting to discuss the possibility of scheduling further hearings on the subject.

On October 12 the House Committee on Ways and Means ordered reported favorably to the House H. R. 5693, amended, which would levy a 3-cents-a-pound tax on imported fresh or frozen tuna fish.

BILLS SIGNED BY THE PRESIDENT:

Collisions at Sea: H. R. 5013, authorizing the President to proclaim regulations for preventing collisions at sea. Signed October 11, 1951 (P. L. 172).

CONGRESSIONAL REPORTS:

Committee reports on bills reported in this section of interest to the fishery and allied industries (obtainable only from the committee submitting the report):

Amending the Defense Production Act of 1950, As Amended, House Rept. No. 1186, (October 15, 1951, 82d Congress, 1st Session), 8 p., printed, pursuant to S. 2170 (82d Congress, 1st Session), to amend the Defense Production Act of 1950, as amended. The committee on Banking and Currency recommended passage of the bill as amended.

Imposition of Duties on Tuna Fish, House Report No. 1153 (October 12, 1951, 82d Congress, 1st Session), 9 p., printed, pursuant to H. R. 5693, to amend the Tariff Act of 1930, so as to impose certain duties upon the importation of tuna fish, and for other purposes. Committee on Ways and Means recommended passage of the bill as amended. The purpose of the bill is to impose a tariff of 3 cents a pound on fresh or frozen tuna, whether or not

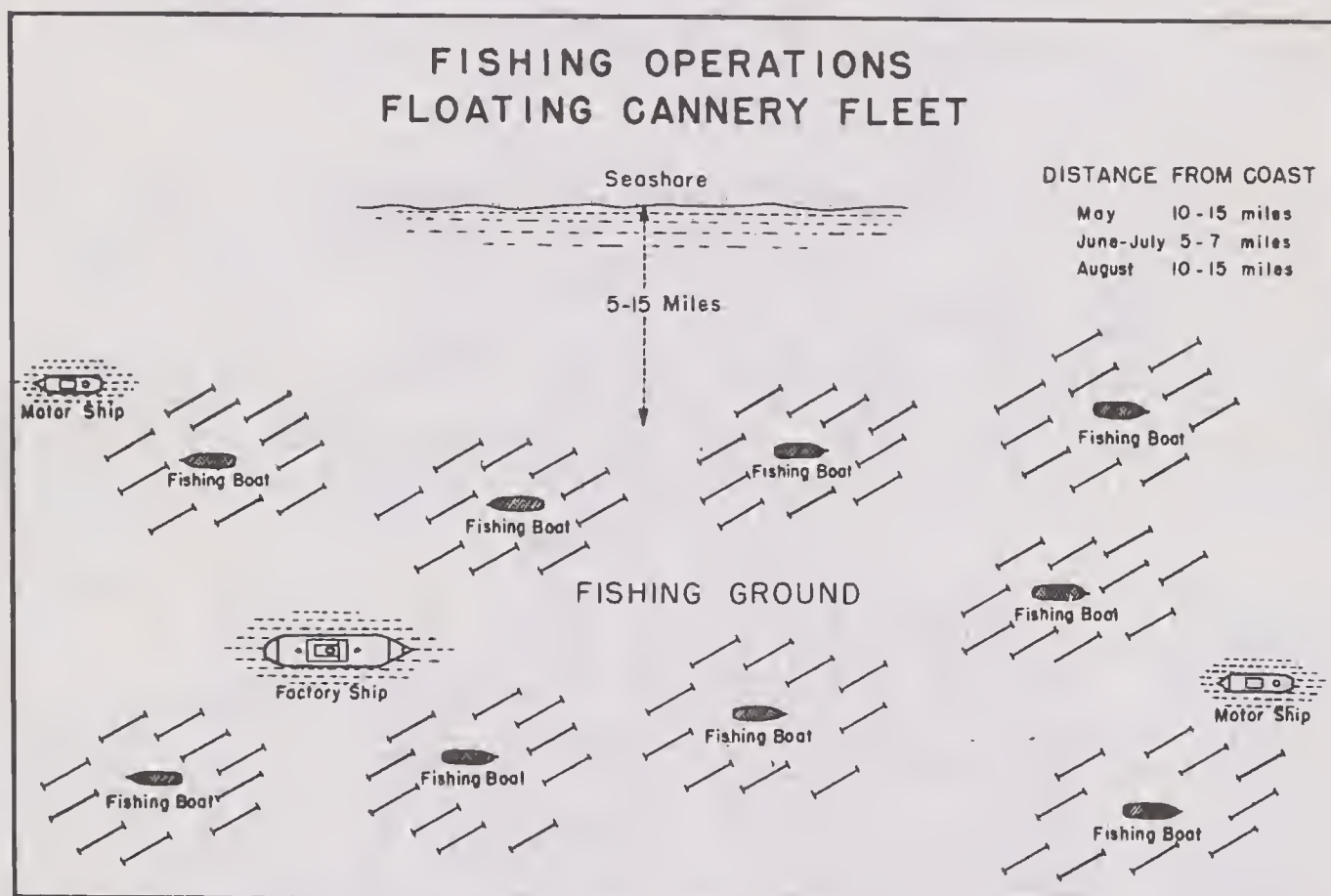
packed in ice, and whether or not whole, which is now admitted free of duty. The duty would be effective on the day after the date of enactment of the bill, and would expire on March 31, 1953. Meanwhile, studies would be undertaken by the Tariff Commission and Department of the Interior in order to provide Congress with the necessary

information to formulate a longer-range tariff policy with respect to the domestic tuna industry. The report discusses rates of duty under existing law, imports, status of the domestic tuna industry, factors to be taken into account, and what the Committee recommended. A letter giving the State Department's position on the question is included.



CANNED CRAB INDUSTRY OF JAPAN

The Japanese factory ship, or floating cannery, originated in 1914 with the Unyo Maru, a ship of the Fisheries Institute, Japanese Ministry of Agriculture and Forestry, which did experimental canning in the Sea of Okhotsk. The main difficulty encountered was the lack of sufficient fresh water then believed necessary for canning operations. In 1920, the Kureha Maru, a training vessel of the Toyama Prefectural Fisheries Institute, succeeded in adapting sea water to all canning purposes, thus eliminating the necessity of carrying vast quantities of fresh water. These experiments were so successful that in 1920 canning machinery was installed in the 175-ton sailing ship, Kureha Maru, which packed 300 cases that year. Thus, crabs were successfully canned at sea commercially for the first time.



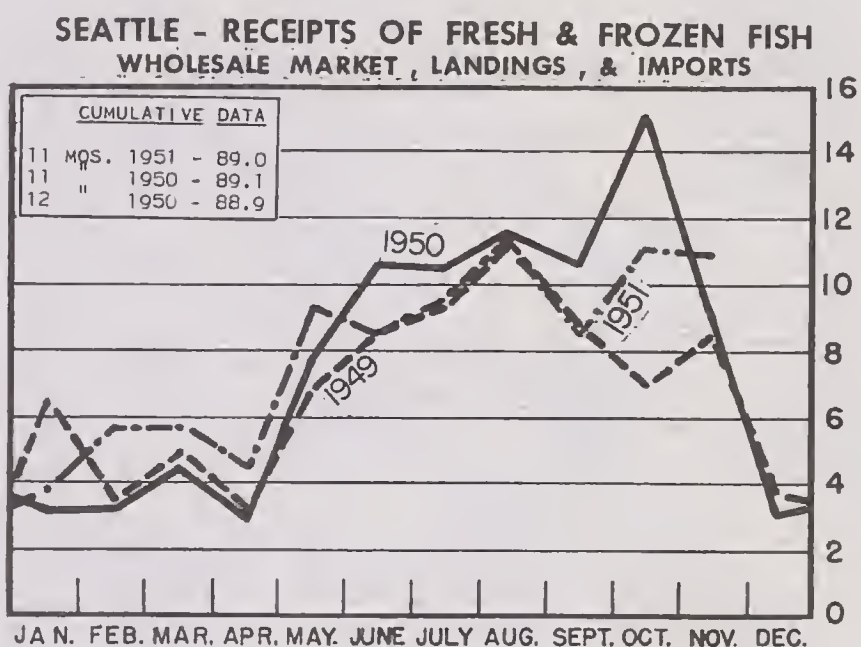
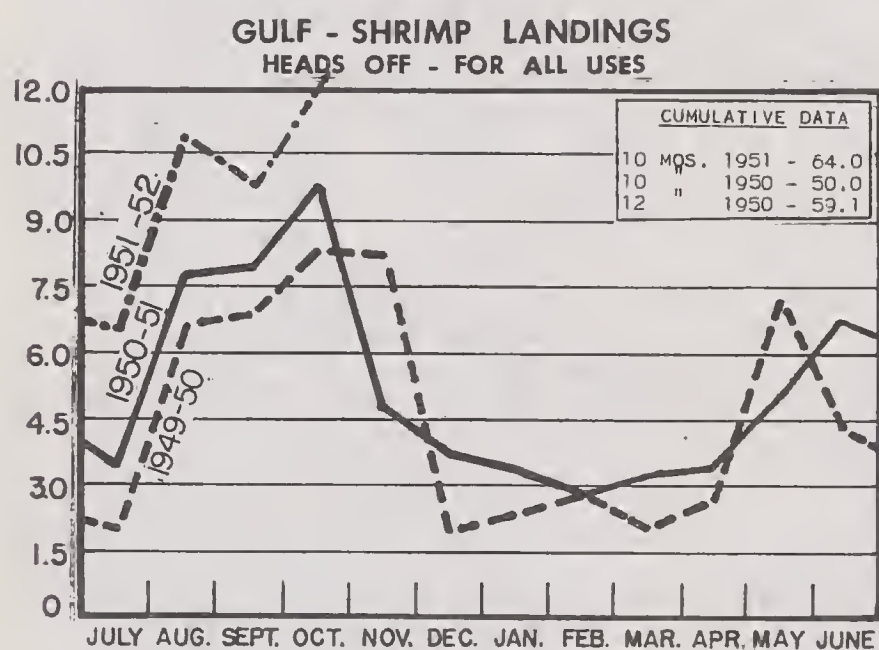
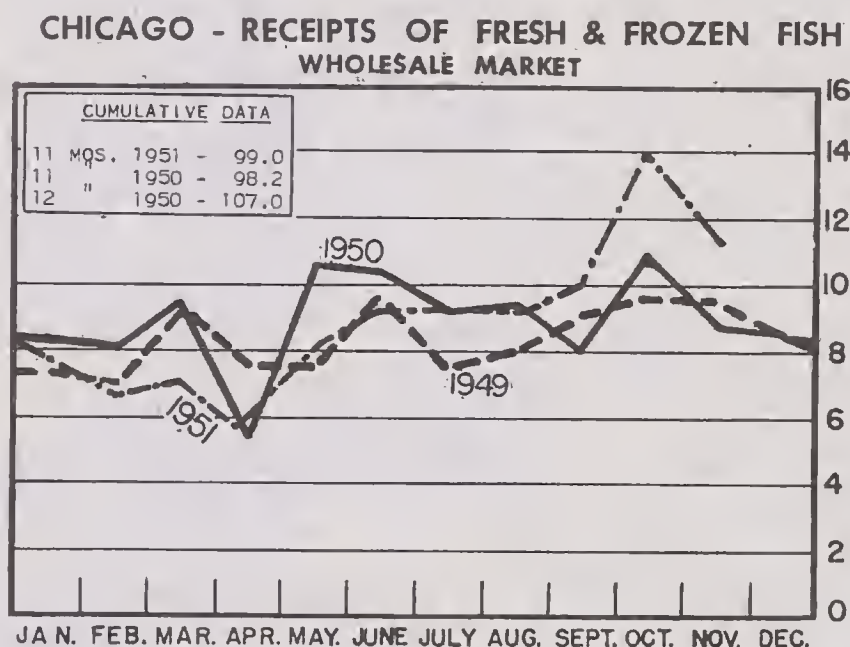
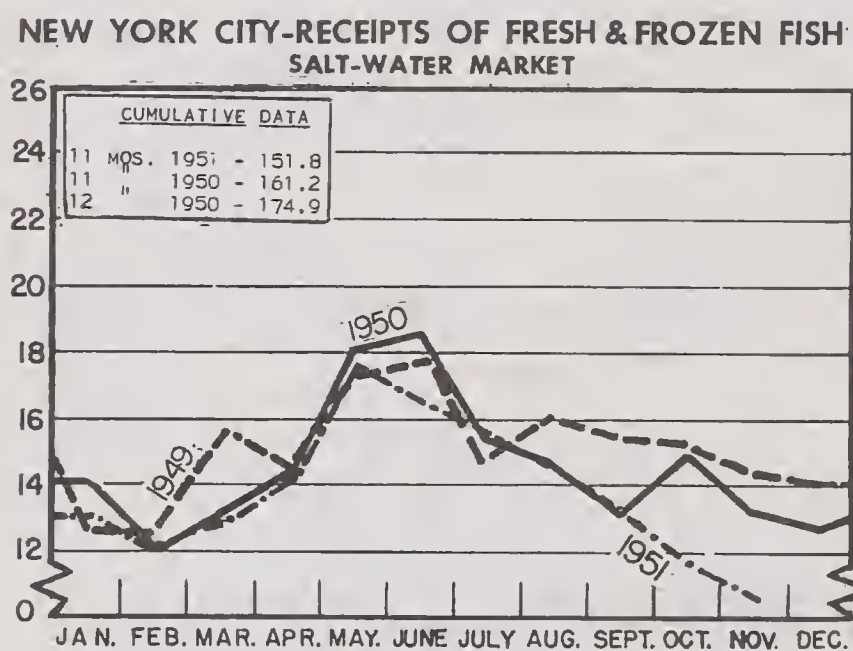
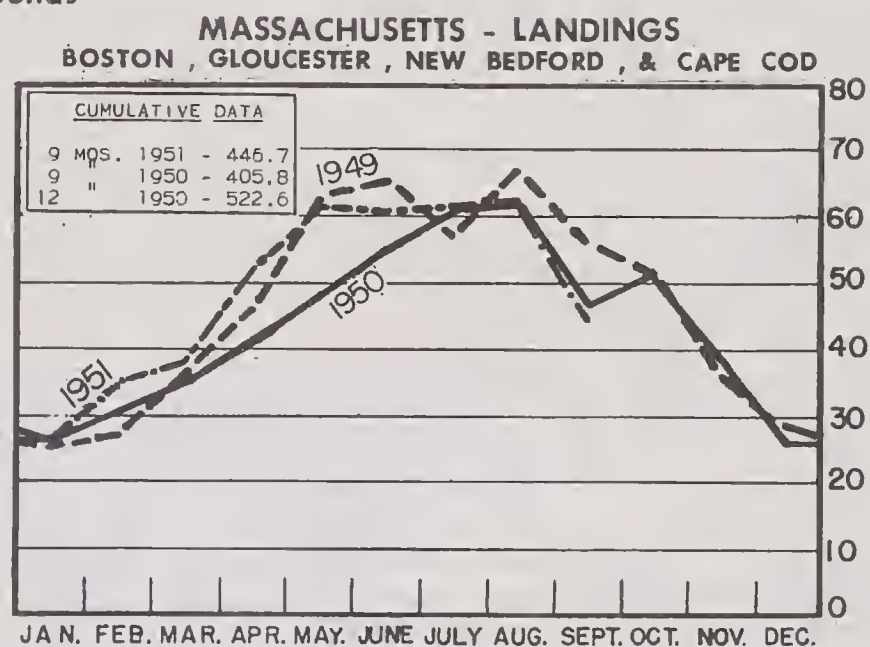
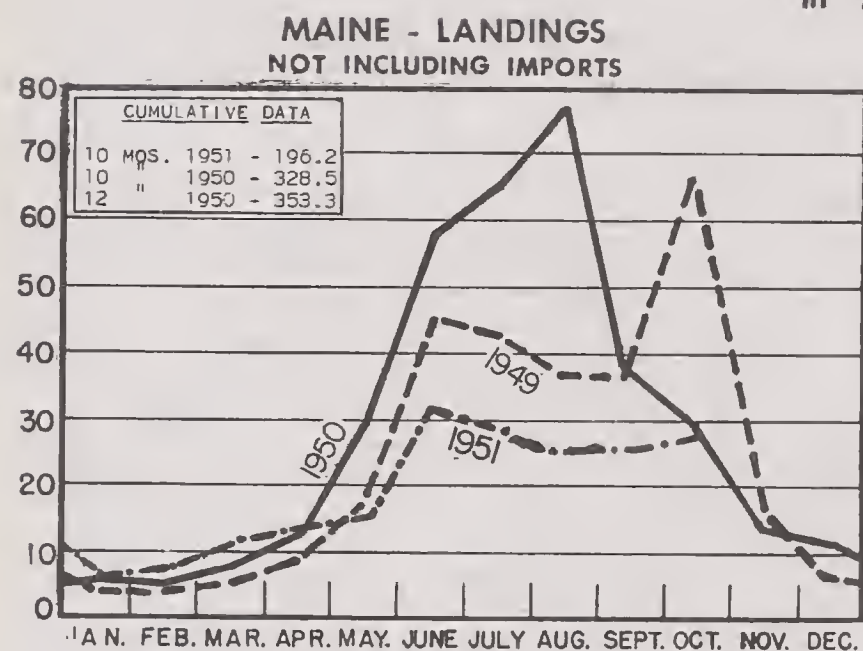
In 1921, a total of 4,019 cases was packed aboard three sailing ships operating in the Sea of Okhotsk. By 1923, 17 vessels were in operation, of which nine were sailing ships and eight were steamers, having a total of 9,048 gross tons. These ships packed 22,996 cases of crab meat. All sailing factory ships were eliminated after 1924, and steamers as large as 2,831 tons were used.

In 1930, the peak year of floating cannery production, 20 factory ships, having a gross of 63,975 tons, operated. Floating canneries in Okhotsk and Bering seas totaled 32,123 tons in 1934. They utilized 98 fishing boats, employed 2,790 fishermen and laborers, and produced 196,019 cases of crab meat with a market value of about ¥7,900,000. All activities were temporarily suspended in 1941. Only two factory ships operated in 1942, all others having been requisitioned by the Japanese Navy. Operations finally were suspended during that year. The seven factory ships in use during 1939, which later were requisitioned by the Navy, were sunk during World War II.

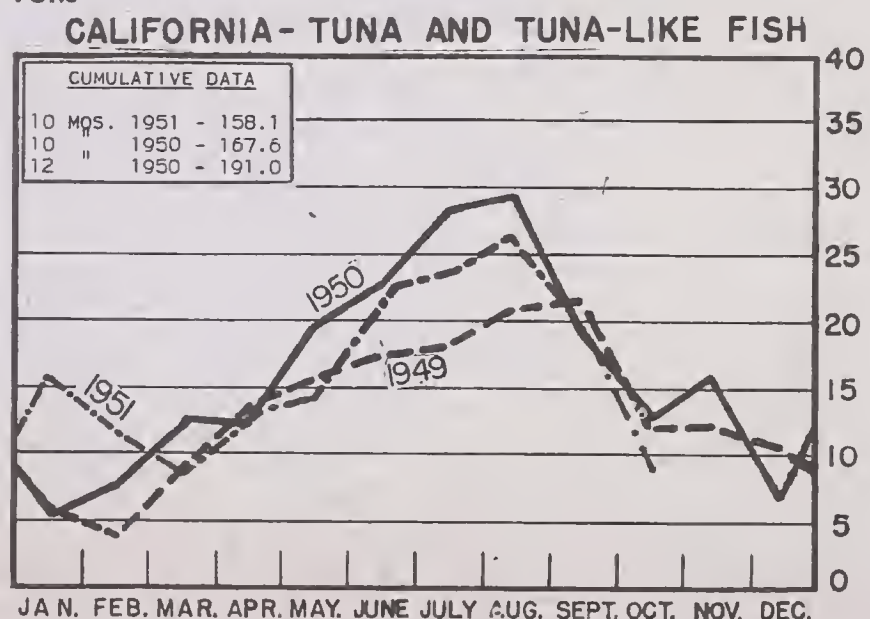
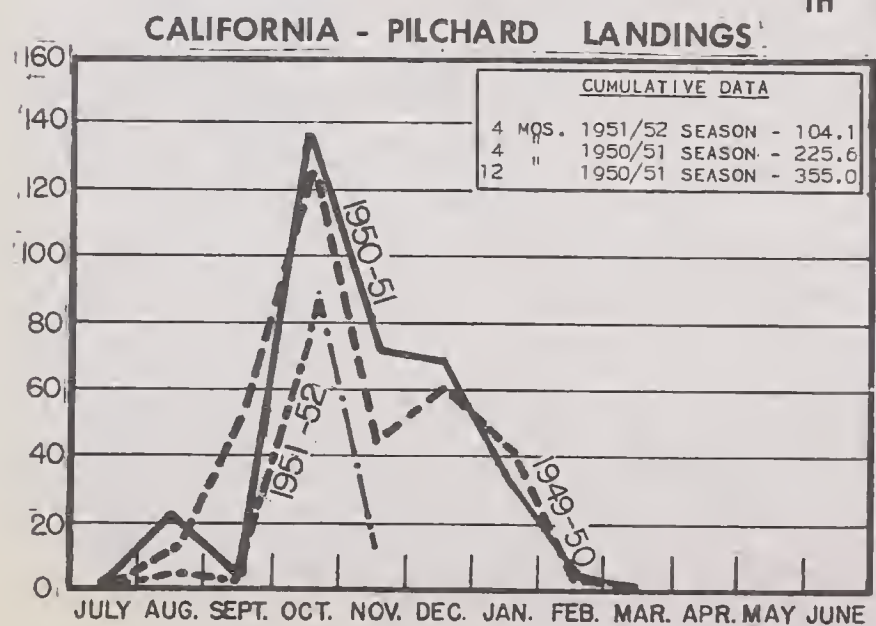
During the operation of the floating factories from 1920-42, 52 different ships engaged in canning crab meat. These ships ranged in size from the 68-ton sailing ship Fumi Maru to the 8,253-ton steamer Taihoku Maru.

LANDINGS AND RECEIPTS

In Millions of Pounds



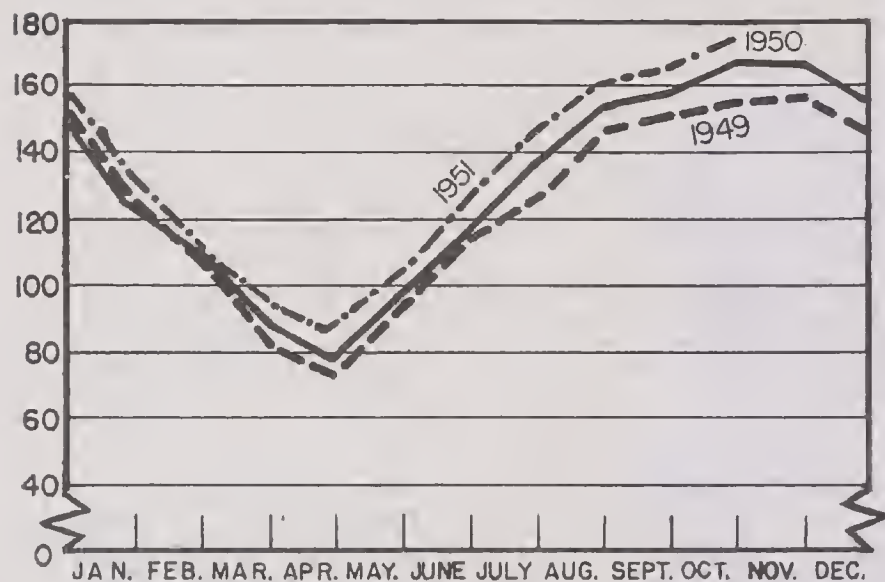
In Thousands of Tons



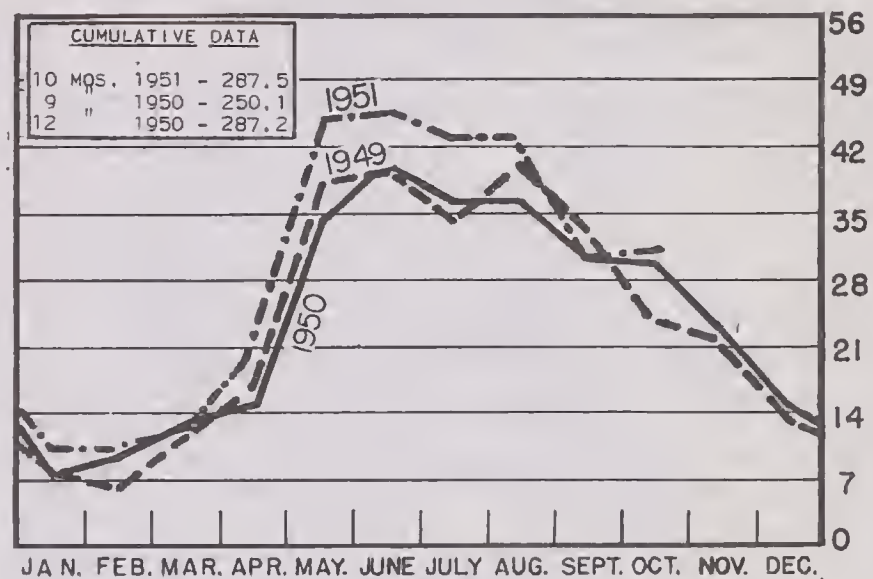
COLD STORAGE HOLDINGS and FREEZINGS of FISHERY PRODUCTS

In Millions of Pounds

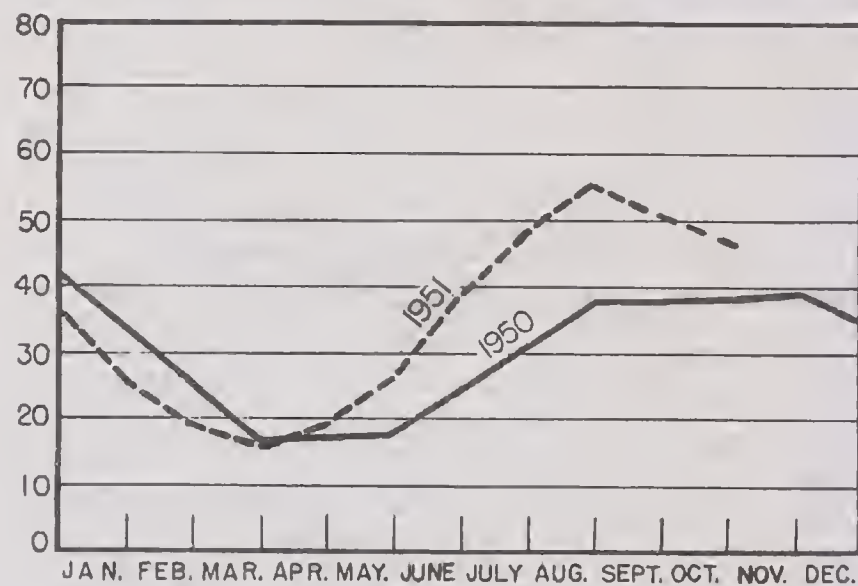
U.S. & ALASKA - HOLDINGS OF FROZEN FISH



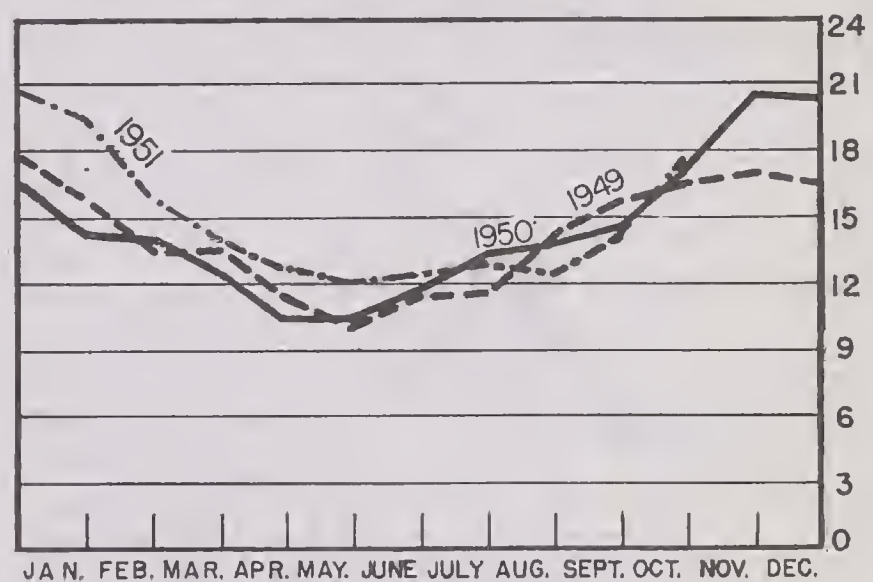
U.S. & ALASKA - FREEZINGS



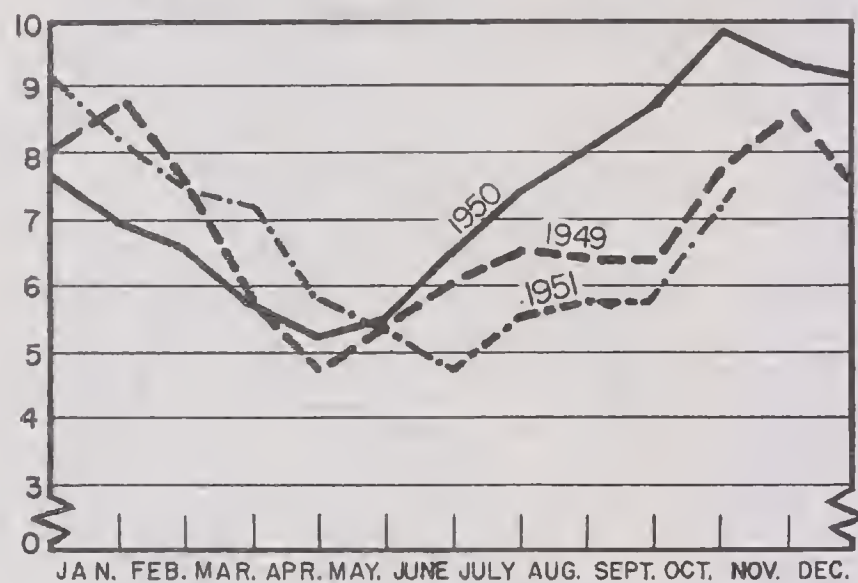
NEW ENGLAND - HOLDINGS OF FROZEN FISH



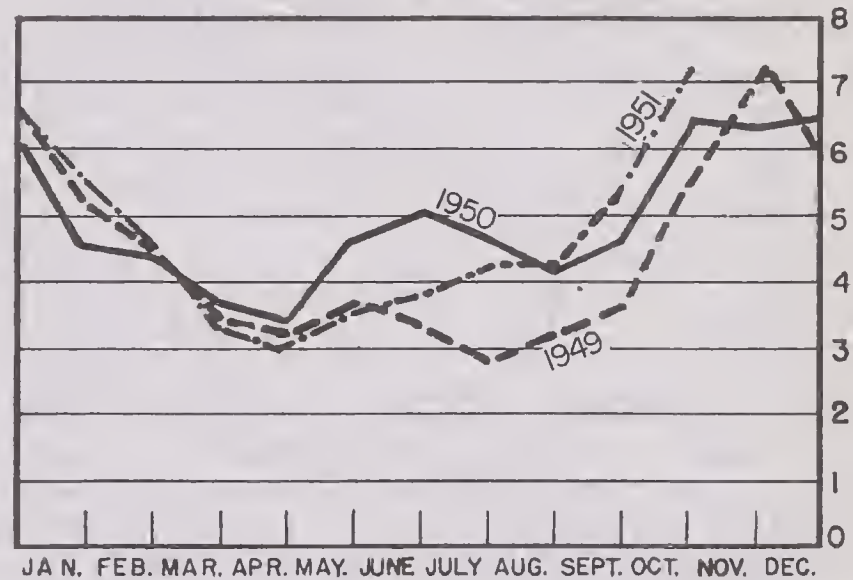
NEW YORK CITY - HOLDINGS OF FROZEN FISH



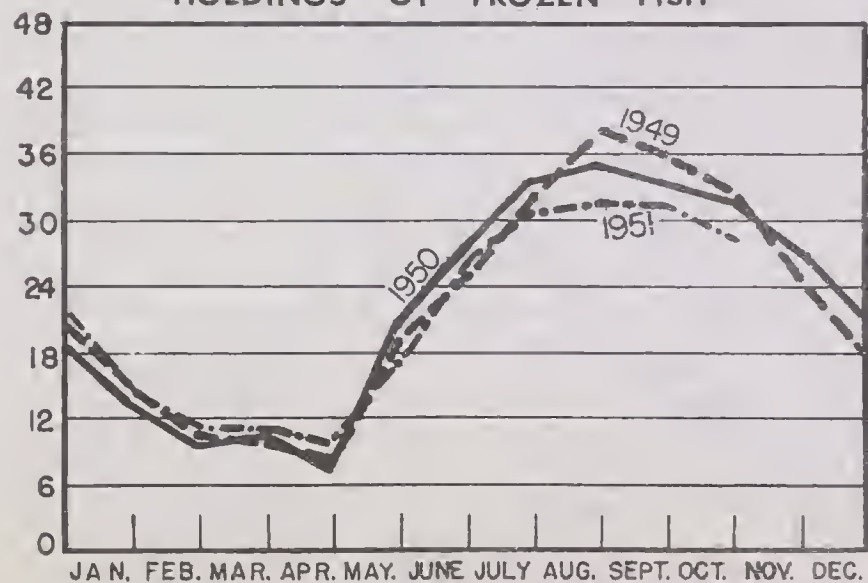
CHICAGO - HOLDINGS OF FROZEN FISH



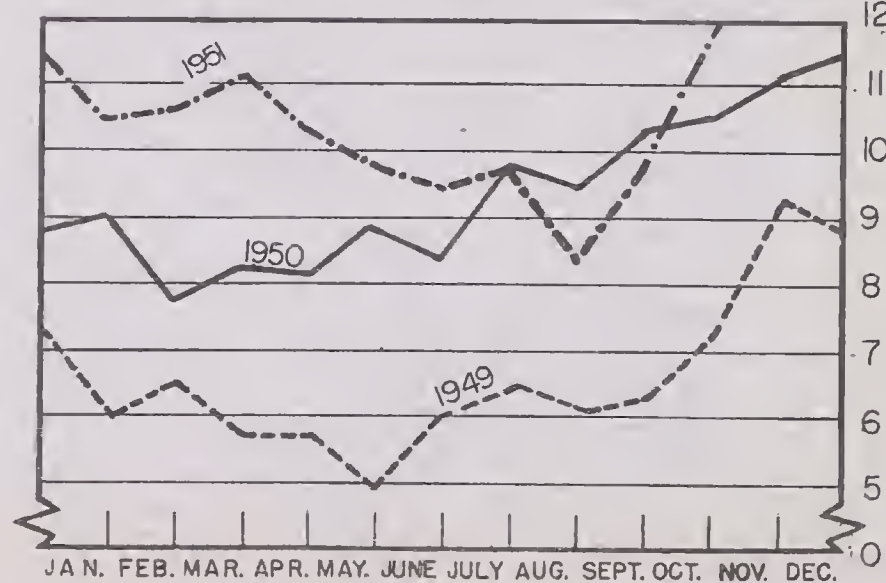
GULF - HOLDINGS OF FROZEN FISH



WASHINGTON, OREGON, AND ALASKA - HOLDINGS OF FROZEN FISH



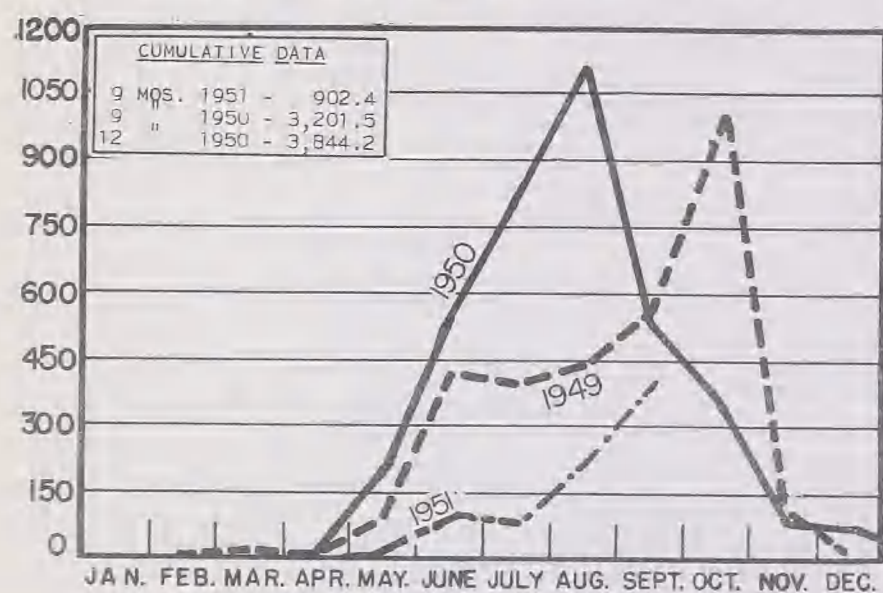
CALIFORNIA - HOLDINGS OF FROZEN FISH



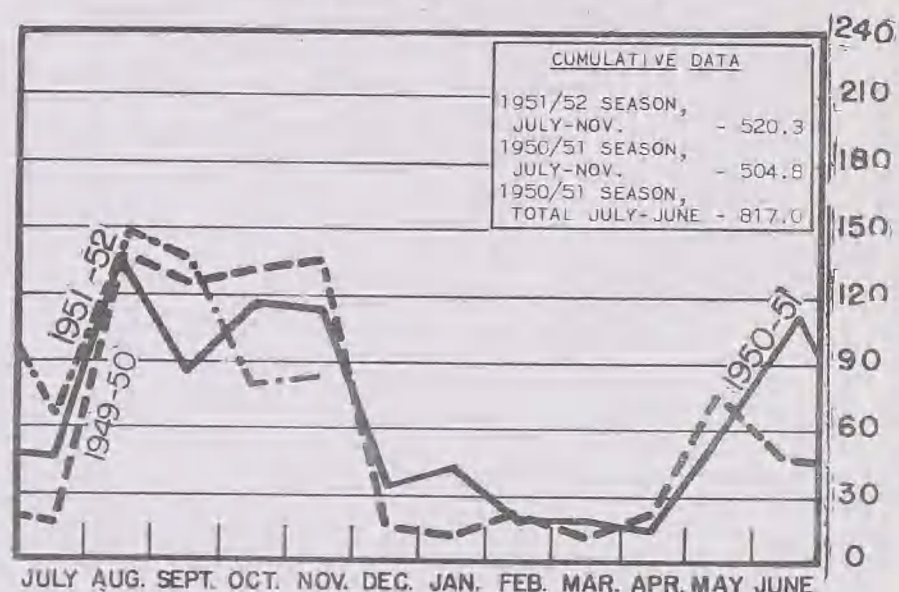
CANNED FISHERY PRODUCTS

In Thousands of Standard Cases

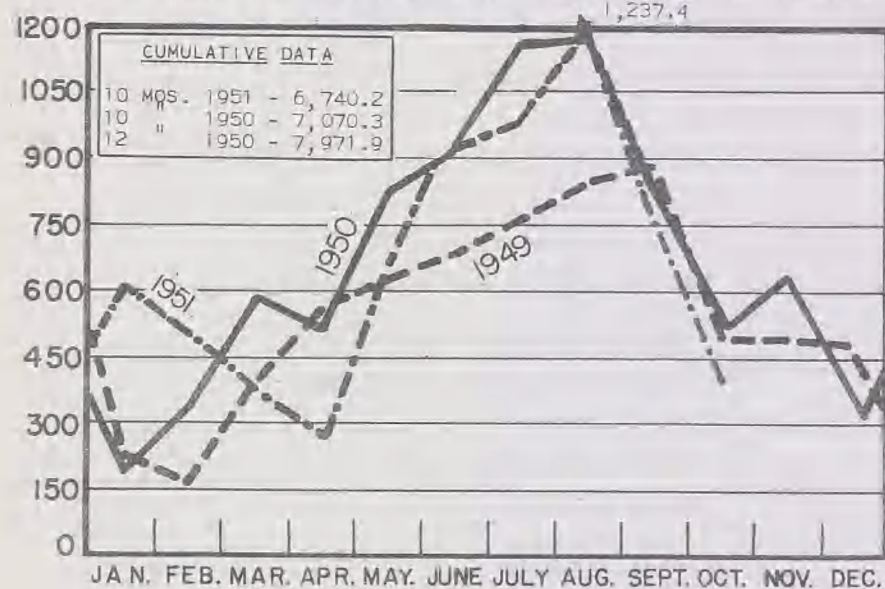
MAINE - SARDINES, ESTIMATED PACK



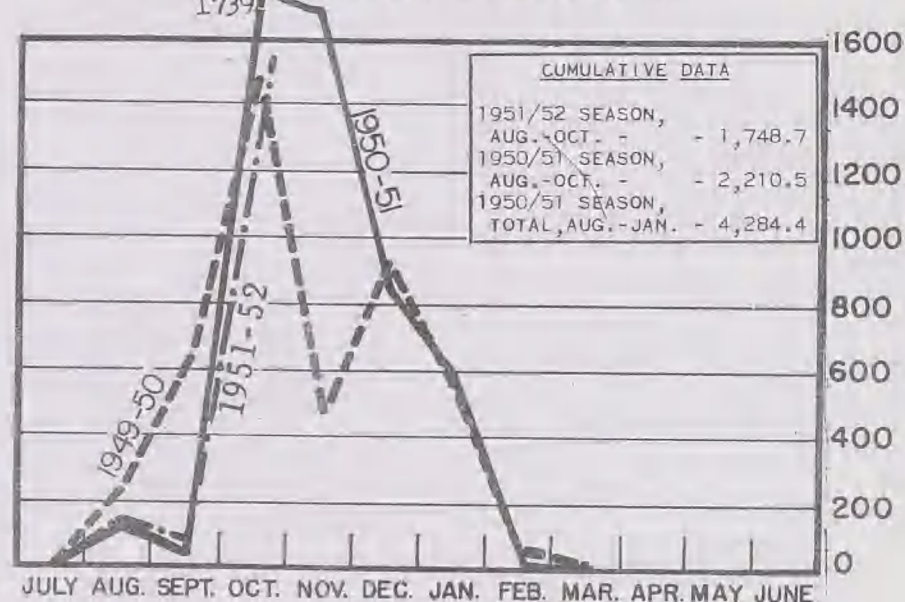
UNITED STATES - SHRIMP



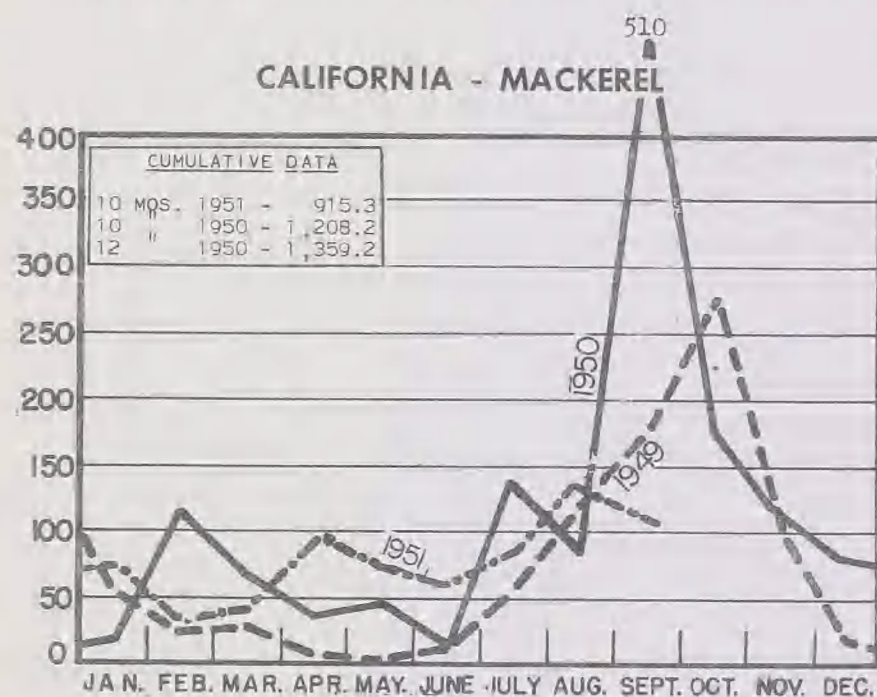
CALIFORNIA - TUNA AND TUNA-LIKE FISH



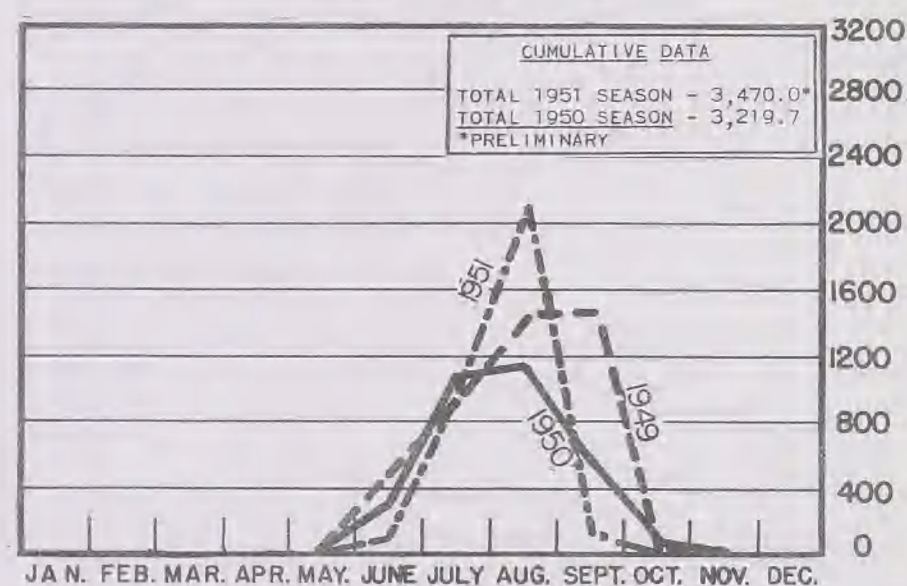
CALIFORNIA - PILCHARDS



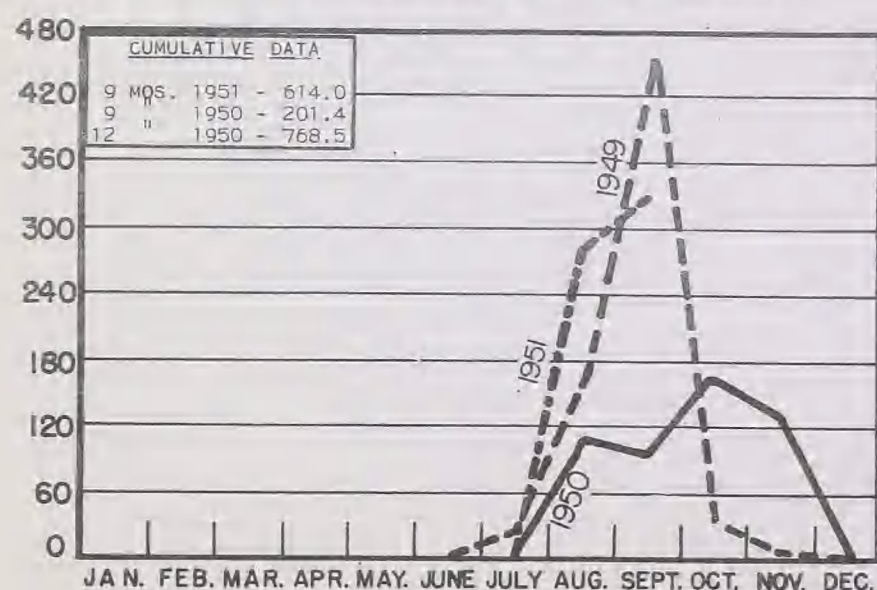
CALIFORNIA - MACKEREL



ALASKA - SALMON



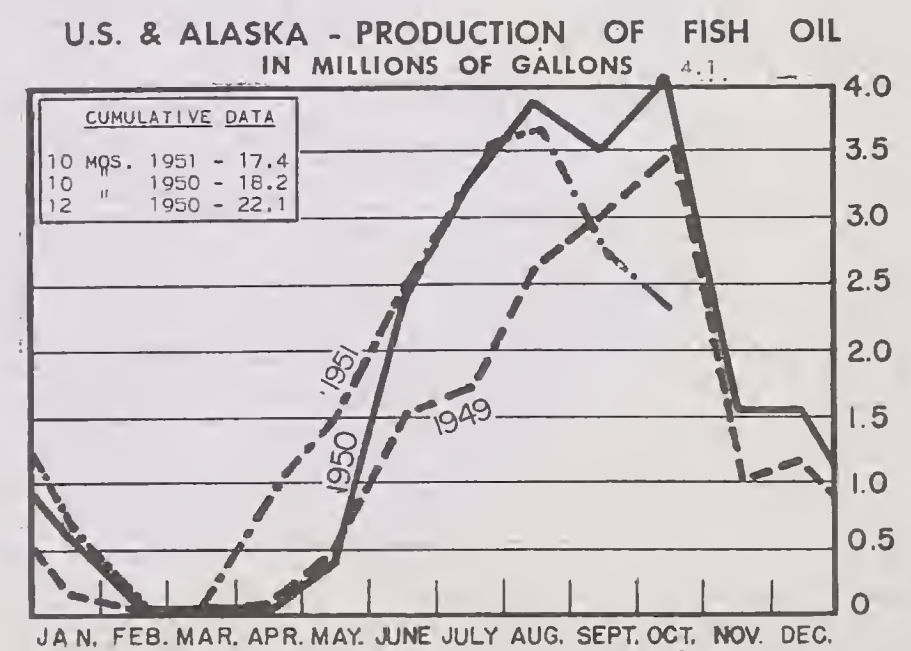
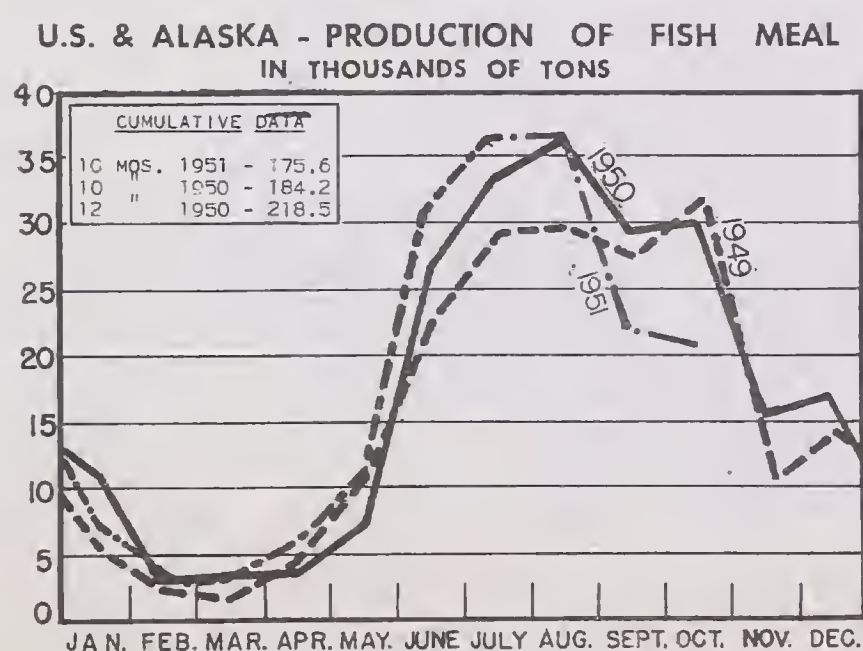
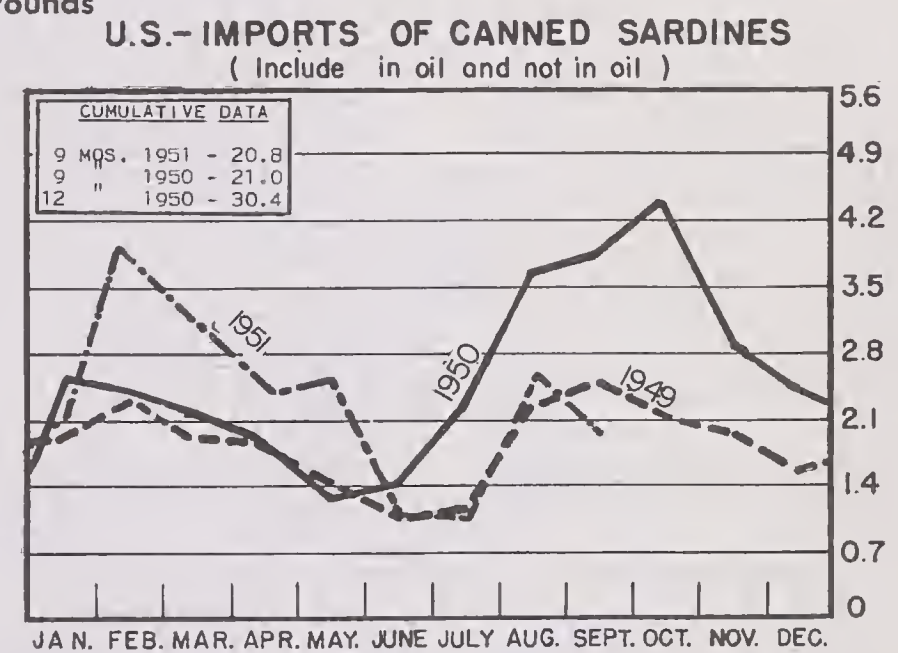
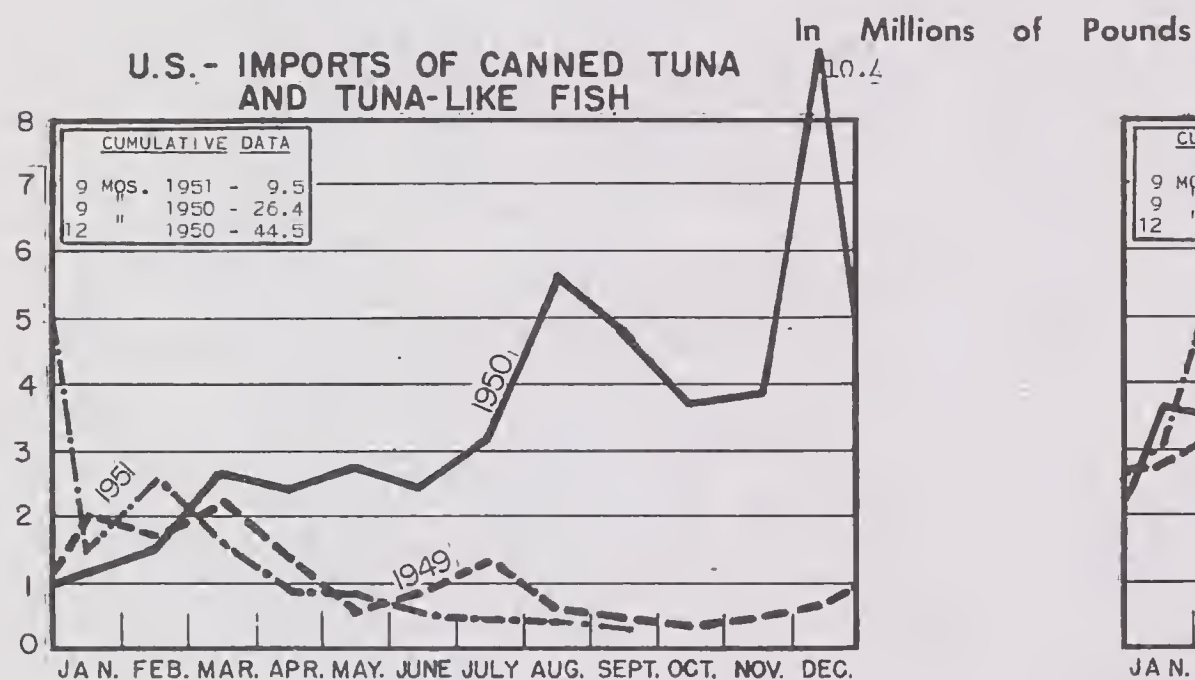
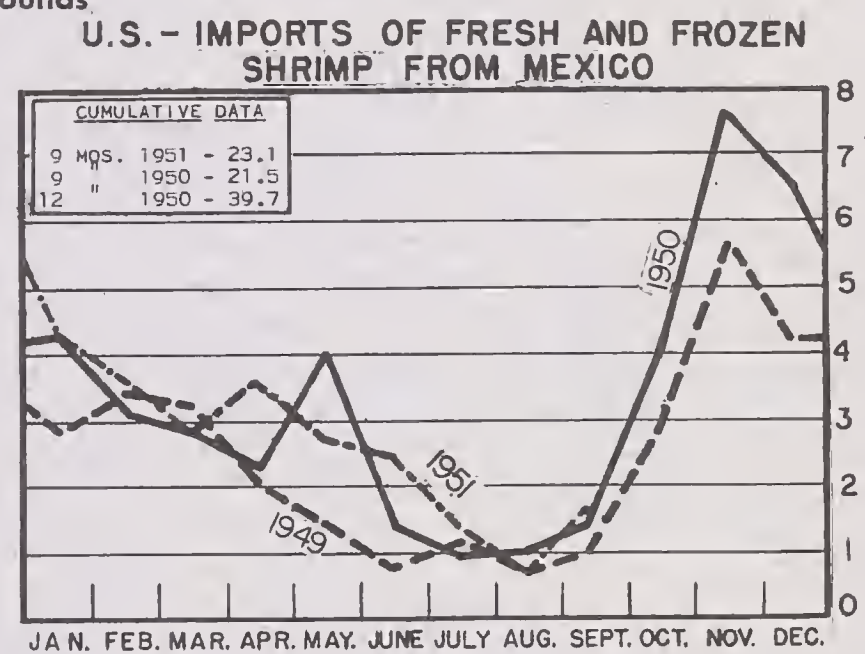
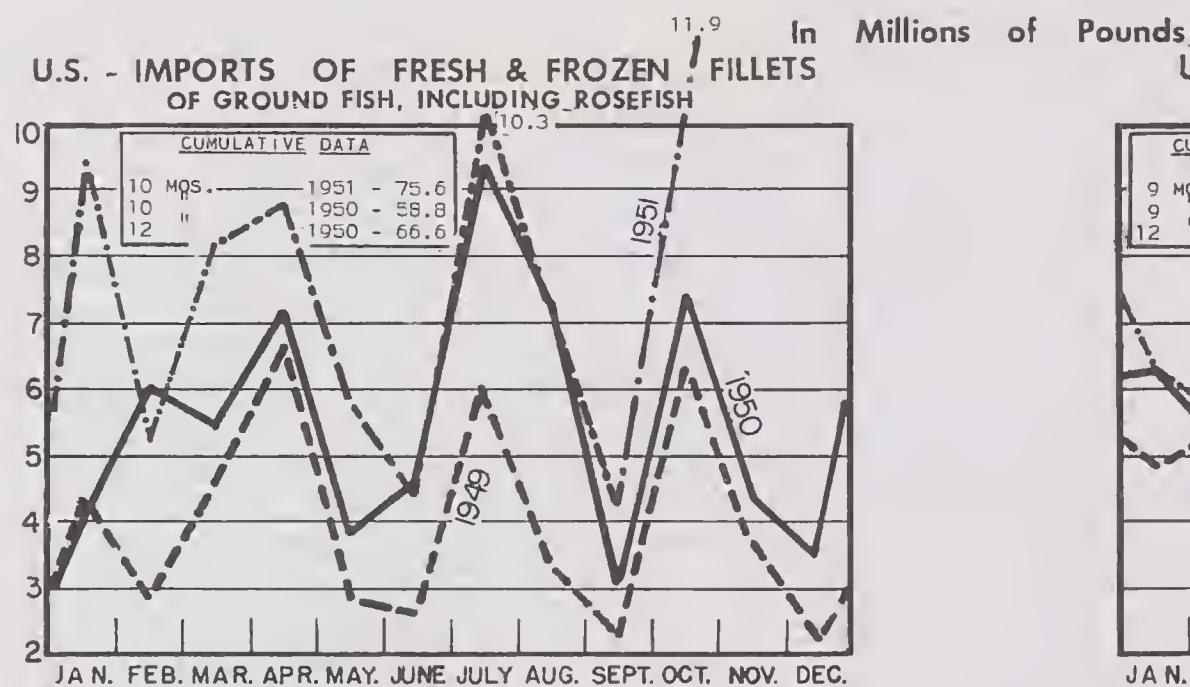
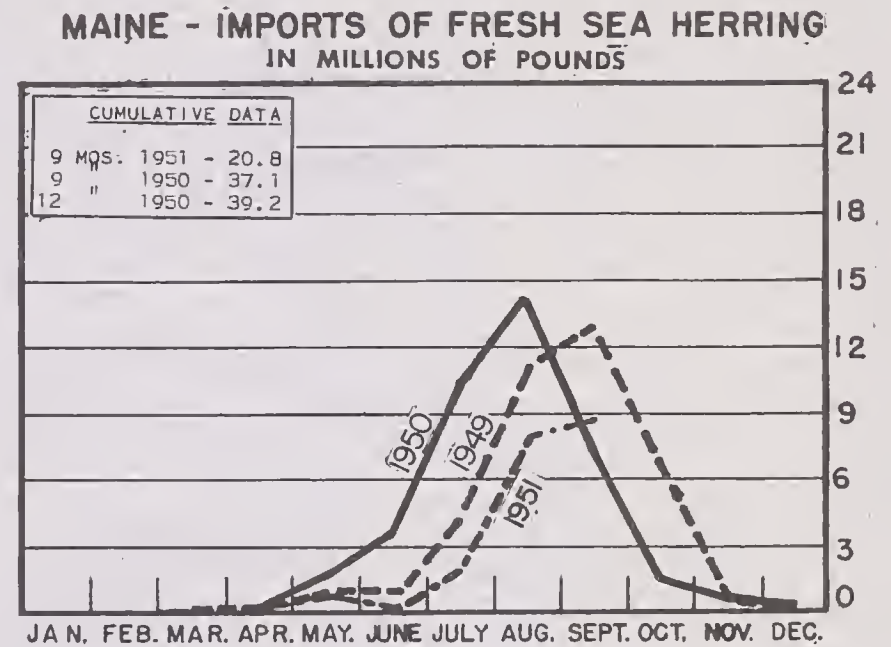
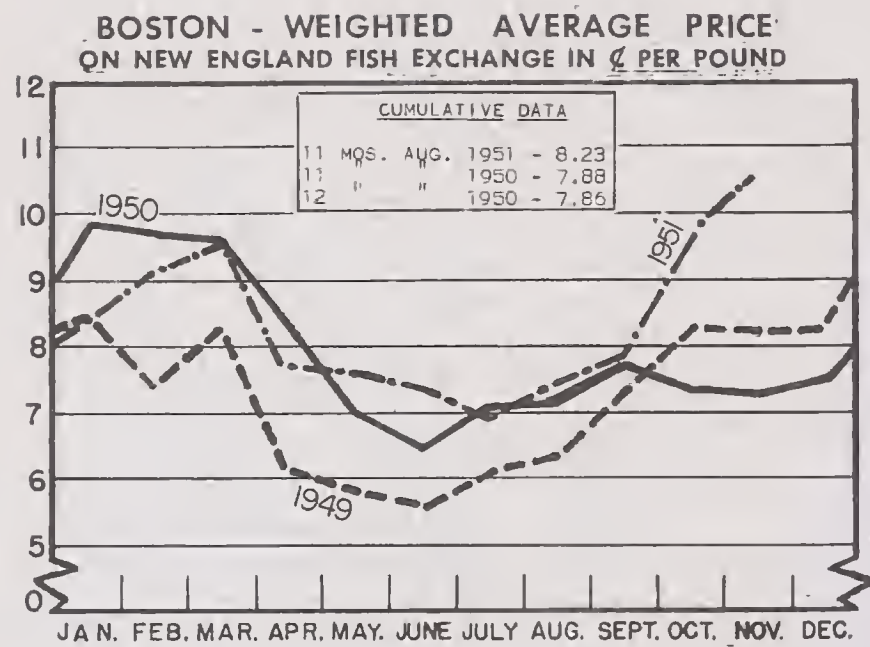
WASHINGTON - PUGET SOUND SALMON

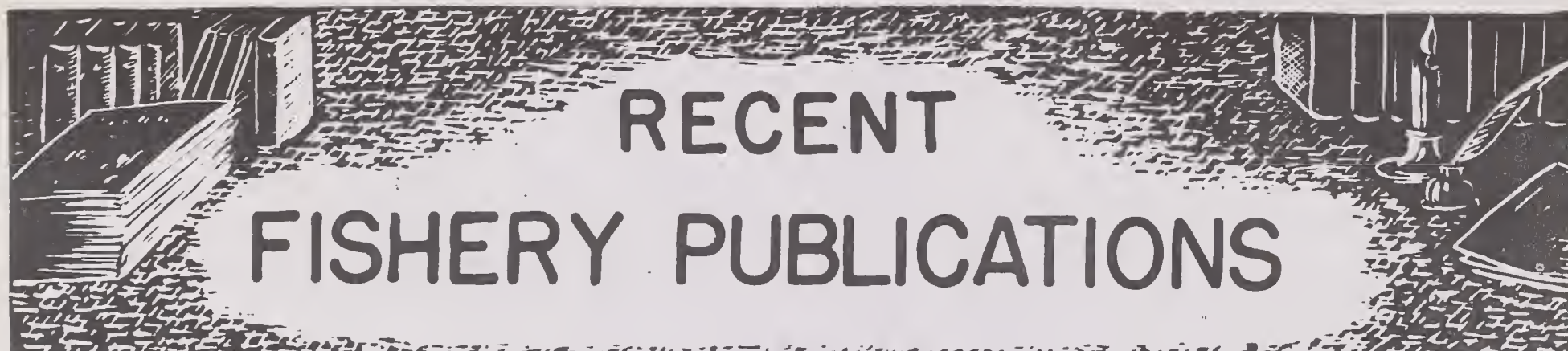


STANDARD CASES

Variety	No. Cans	Can Designation	Net. Wgt.
SARDINES	100	1/4 drawn	3 1/4 oz.
SHRIMP	48	—	5 oz.
TUNA	48	No. 1/2 tuna	7 oz.
PILCHARDS	48	No. 1 oval	15 oz.
MACKEREL	48	No. 300	15 oz.
SALMON	48	1-pound tall	16 oz.

PRICES, IMPORTS and BY-PRODUCTS





Recent publications of interest to the commercial fishing industry are listed below.

FISH AND WILDLIFE SERVICE PUBLICATIONS

THESE PROCESSED PUBLICATIONS ARE AVAILABLE FREE FROM THE DIVISION OF INFORMATION, U.S. FISH AND WILDLIFE SERVICE, WASHINGTON 25, D.C. TYPES OF PUBLICATIONS ARE DESIGNATED AS FOLLOWS:

CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES AND ALASKA.

FL - FISHERY LEAFLETS.

SEP.- SEPARATES (REPRINTS) FROM 'COMMERCIAL FISHERIES REVIEW.

<u>Number</u>	<u>Title</u>
CFS-625	- Massachusetts Landings, 1950 Annual Summary, 16 p.
CFS-653	- Pacific Coast Fisheries, 1949 Annual Summary, 6 p.
CFS-664	- Massachusetts Landings, May 1951, 14 p.
CFS-672	- Packaged Fish Report, 1950 Annual Summary, 4 p.
CFS-677	- Meal and Oil, July 1951, 2 p.
CFS-679	- Florida Landings, July 1951, 4 p.
CFS-681	- Florida Landings, 1950 Annual Summary, 4 p.
CFS-682	- Gulf Fisheries, 1949 Annual Summary, 6 p.

<u>Number</u>	<u>Title</u>
CFS-683	- Chesapeake Fisheries, 1949 Annual Summary, 4 p.
CFS-684	- Frozen Fish Report, September 1951, 10 p.
CFS-686	- Texas Landings, August 1951, 4 p.
CFS-687	- Maine Landings, July 1951, 4 p.
CFS-688	- Meal and Oil, August 1951, 2 p.
CFS-689	- Alabama Landings, August 1951, 4 p.
CFS-691	- Mississippi Landings, August 1951, 2 p.
FL -336j-	Quarterly Outlook for Marketing Fishery Products, Oct.-Dec. 1951, 24 p.
Sep.290	- Results of Some Tests with Frozen Oysters.
Sep.291	- Social Security for Self-Employed Persons in Fishery Industries.

THE FOLLOWING SERVICE PUBLICATIONS ARE AVAILABLE ONLY FROM THE SPECIFIC OFFICE MENTIONED IN THE REVIEW.

Landings & Receipts at Seattle—1950, by Charles M. Reardon, 25 p., processed, October 1951. (Available free from the Market News Service, U. S. Fish and Wildlife Service, 421 Bell Street, Terminal, Seattle 1, Washington.) This publication contains an article which reviews the Seattle fisheries trends and conditions for 1950. The balance of the report is made up of tables giving the landings and wholesale receipts (including approximate values) at Seattle for 1950 by species, by months, and by points of origin; halibut fishery landings by months; a monthly index of receipts of certain fishery products at Seattle; carload shipments of fishery products by months; and names, classifications, and approximate standards for fresh and frozen fishery products as sold on the Seattle market.

Receipts of Fresh and Frozen Fishery Products at

Chicago—1950 by G. A. Albano, 54 p., processed, September 1951. (Available free from the Market News Service, U. S. Fish and Wildlife Service, 200 North Jefferson St., Chicago 6, Ill.) In addition to an analysis of the receipts and trends of fresh and frozen fish at Chicago for 1950, this publication contains data on arrivals of fishery products at Chicago by species and by states and provinces of origin; states and provinces by species; species by months; states and provinces by months; totals by species; totals by states and provinces; and a monthly range of wholesale prices of some of the leading varieties of fresh and frozen fishery products handled on the Chicago market. Also included is a table giving the names, classifications, and approximate weights of certain fishery products as sold in the Chicago wholesale market. The data are also tabulated by method of transportation (truck, express, and freight).

THE FOLLOWING SERVICE PUBLICATIONS ARE FOR SALE AND ARE AVAILABLE ONLY FROM THE SUPERINTENDENT OF DOCUMENTS, WASHINGTON 25, D.C.

Growth of Pacific Coast Pilchard Fishery to 1942, by Milner B. Schaefer, Oscar E. Sette, and John C. Marr, Research Report 29, 31 p., printed, 20 cents, 1951. Drawing from all official records of the States and the Federal Governments of Canada and the United States, the authors have documented in this booklet the growth of the Pacific-coast pilchard or sardine fishery up to the beginning of World War II, that is, through the 1941-42 fishing season. In discussing the development of the fish-

ery, the authors report on the early fishery, growth of the fishery, growth curve of the fishery, and fluctuations related to the economic cycle. The last part of the booklet gives information on the legal regulations relating to the pilchard fishing and processing industry promulgated by British Columbia, Oregon, Washington, and California. The pilchard fishery of the west coast of North America was a minor one until stimulated by the war-born food demand of 1914-18, according

to the authors. "Annual landings increased to 600,000 tons by the 1934-35 season and fluctuated about this level until the 1944-45 season. The

year 1942 marks approximately the end of the period of growth of the fishery."

MISCELLANEOUS PUBLICATIONS

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE AGENCIES ISSUING THEM. CORRESPONDENCE REGARDING PUBLICATIONS THAT FOLLOW SHOULD BE ADDRESSED TO THE RESPECTIVE AGENCIES OR PUBLISHERS MENTIONED. DATA ON PRICES, IF READILY AVAILABLE, ARE SHOWN.

"Better Utilization of Fisheries Resources in Latin America," by F. B. Osorio-Tafall, article, FAO Fisheries Bulletin, vol. 4, no. 3 (May/June 1951), pp. 3-25, illus., printed; annual subscription US\$1.50, single copy 30 cents. Food and Agriculture Organization of the United Nations, Rome, Italy. Fisheries resources in Latin America, despite their high nutritional value and relative abundance, remain underdeveloped. This article, which is a revision of the paper presented at FAO's Second Latin-American Regional Meeting on Food and Agricultural Programs and Outlook, Montevideo, Uruguay, December 1950, discusses the various possibilities of developing the fisheries resources of Latin America. Known resources, Latin America's share in world production, recent developments, imports and exports from the Latin-American region, latent possibilities, development problems, action taken by certain countries, fishermen, fish consumption, fishermen's associations, education, special problems in financing fisheries enterprises, credit problems, markets, and the future of Latin-American fisheries are some of the subjects discussed by the author.

Biennial Report Florida Game & Fresh Water Fish Commission, 1949-50, 145 p., illus., printed. Game and Fresh Water Fish Commission, Tallahassee, Florida, 1950. This is the report of the State Game and Fresh Water Fish Commission for the biennium ending December 31, 1950. Included is the report on the activities of the Fish Management Division, and among the activities covered are the St. Johns River and Lake Okeechobee fisheries surveys. These surveys include a study of the types of gear which could be used to harvest catfish and other species, in order to determine the effect of certain commercial fishing devices upon fish populations. Results of some of these studies are presented. The types of gear covered are wire traps, pound nets, hoop nets, shad and herring seines, gill and trammel nets, haul seines, and slat baskets. In addition, this report contains the monthly catch of catfish by months as reported by licensed wholesale fresh-water fish dealers for 1950.

"Fishing Craft and Gear," article, FAO Fisheries Bulletin, vol. 4, no. 3 (May/June 1951) pp. 25-32, printed; annual subscription US\$1.50, single copy 30 cents. Food and Agriculture Organization of the United Nations, Rome, Italy. This article presents a summary of information on fishing craft and gear reported to FAO in 1950 from various countries. The emphasis is on the efforts being

made to improve fishing methods in order to increase the yield of fish. The countries and areas covered are: British East and Central Africa, British West Africa, Egypt, Mauritius, Seychelles, Union of South Africa, British West Indies, Venezuela, Aden, British Colonial Territories in the Far East, Ceylon, China, India, Indonesia, Japan, Philippines, Turkey, Austria, Denmark, Finland, France, Ireland, Netherlands, Norway, Sweden, Australia, New Zealand, and the Territory of Papua and New Guinea.

Formulation and Economic Appraisal of Development Projects, Book II--Lectures on Special Problems Delivered at the Asian Centre on Agricultural and Allied Projects, Lahore, Pakistan, Oct.-Dec. 1950, 307 p., printed, US\$2.50. (Book I--Major Course Lectures Delivered at the Asian Centre on Agricultural and Allied Projects, \$3.00, does not contain any lectures specifically dealing with fisheries.) United Nations, New York, N. Y., March 1951. Included among the lectures presented in this book are a series on "Planning the Development of Asian Fishing Industries," by G. L. Kesteven (pp. 641-67). The author discusses the present status of the industry and principal prospective lines of development; handling of fish from the producer to the consumer; projects for general development of the industry; formulation and management of projects; determination of best avenue of development; costs and returns; and equipment, personnel, and finance.

(Hawaii) Report of the Board of Commissioners of Agriculture and Forestry of the Territory of Hawaii (Biennial Period Ending June 30, 1950), 79 p., illus., printed. Board of Commissioners of Agriculture and Forestry, Honolulu, Hawaii, January 1951. Covering the two fiscal years ending June 30, 1950, this booklet includes the report of the Division of Fish and Game. Research on tuna and marlin, food habits of some important Hawaiian fish, improvements in trolling and flag-line (long-line) fishing, effect of pollution on live-bait fish, and fresh-water fisheries are discussed in this report. In addition, commercial fish landings by months and by species for 1948-49 and 1949-50, and a key to the fish of Hawaii are presented.

Indo-Pacific Fisheries Council Proceedings (2nd meeting, 17th-28th April, 1950, Cronulla, N.S.W., Australia), Section I, 47 p., printed. Food and Agriculture Organization of the United Nations, Rome, Italy (Printed in Bangkok, November 1950). This is only the first of three sections. This

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section deals with a report of the proceedings, giving the reports of the various committees, a summary account of the proceedings, agenda and program of the meeting, a list of technical papers presented at the meeting, and the list of delegates, alternates, experts, and observers. To be issued later will be Section II which presents the technical papers given at the meeting and Section III which contains the symposium papers read in the evening Symposium Sessions.

Japanese Offshore Trawling by Francois Bourgois, Report No. 138, 60 p., illus., processed. Natural Resources Section, Supreme Commander for the Allied Powers, Tokyo, Japan, December 1950. (Reports may be purchased only in photostat or microfilm from the Office of Technical Services, U.S. Department of Commerce, Washington 25, D. C. Also available free as Fishery Leaflet 389 from the U. S. Fish and Wildlife Service, Washington 25, D. C.) Modern offshore Japanese vessels use mainly two types of trawls: the otter trawl and the bull trawl. Another net, the Danish trawl, is also used in some offshore waters. Prior to World War II, trawling was carried on the continental shelf of southeast Asia, in the northwestern portion of the Japan Sea, in Bering Sea, and by Japanese companies off Mexico and Argentina. Since the war, trawling has been restricted to the authorized area in the East China Sea. As the present fishing effort cannot be maintained in this area with the present large fleet, a certain number of the trawlers are being withdrawn and the total number of vessels reduced. This report discusses fishing gear of offshore trawlers, Japanese regulations on trawling, normal operations of trawlers before World War II, combined operations of trawlers and factory ships, Japanese trawling under foreign flags, reconnaissance expeditions by Japanese trawlers, and Japanese trawling after the Surrender.

"North Atlantic Seal Hunt," by G. M. Drover, article, Trade News, October 1951, vol. 4, no. 4, pp. 3-5, illus., processed. Department of Fisheries, Ottawa, Canada. The 1951 sealing operations off the coast of Newfoundland and Labrador are presented in this article. Number of vessels engaged, catch, and nations participating in this fishery are included. The author points out that "the seal fishery has for centuries been of considerable economic importance to Newfoundland and Labrador." Characteristics of harp seals, selective killing, and other phases of the fishery are discussed.

Nutritive Value of Fish from Michigan Waters, by Ruth L. Ingalls et al., Technical Bulletin 219, 24 p., printed. Agricultural Experiment Station, Michigan State College, East Lansing, Mich., May 1950. Nine species of fresh-water fish from the lakes of Michigan were analyzed for three vitamins (thiamin, riboflavin, and niacin), seven amino acids (isoleucine, leucine, lysine, methionine, phenylalanine, threonine, and valine), nitrogen,

total ash, solids, and phosphorus. The effects of preservation methods, cooking procedures, environment, and season on the vitamin and amino acid content of the fish were studied. As compared with beef muscle, the fish examined, in general, had a similar amount of the three vitamins and most of the amino acids. Frozen storage did not alter the nutritive value of the fish significantly. The amount of the three vitamins destroyed when the fish was cooked appeared to depend on the temperature used and on the thickness of the flesh of the fish sample. More of these vitamins was retained in the baked fish than in the pan-fried fish. Only 50 percent of each vitamin was retained in the fish fried in deep fat.

(Pennsylvania) Combined Biennial Report (For the Period Ending May 31, 1950), 163 p., illus., printed. Pennsylvania Fish Commission, Harrisburg, Pa., 1950. The operations of the Pennsylvania Fish Commission are presented in this report for the last biennium ending May 31, 1950. Included is a report on commercial hatcheries and commercial fishing in Pennsylvania. Annual statistics on the Lake Erie fish catch (quantity and value) for the years 1946 through 1949 are given. Discussions of the use of nylon netting and the sea lamprey in the waters of Lake Erie are also to be found in this report. The last part of the report consists of tables giving the statistics (pounds and value) of the Lake Fisheries of the United States and Canada for 1946 through 1948 taken from U. S. Fish and Wildlife Service publications.

Point Four in Action—Department of Interior's Role, 38 p., illus., printed, free. U. S. Department of the Interior, Washington 25, D. C. Information concerning the Department of the Interior's role in the President's Point Four Program of technical cooperation with peoples of underdeveloped areas of the world is presented in this booklet. One of the sections appearing in this booklet is entitled: "Expanding the Fishing Industry in Underdeveloped Countries," by Stillman Wright, Assistant Chief of the Fish and Wildlife Service's Office of Foreign Activities. In this section the role of the U. S. Fish and Wildlife Service in developing the fisheries of underdeveloped areas of the world is described. According to this article, the Service is cooperating under Point Four through two types of activities—by sending scientific and technical missions to countries needing and requesting assistance, and by giving in-service training in the United States to foreign technicians needing knowledge of modern fishery methods to apply to development projects in their own countries. "More food for the hungry and new wealth from the sea and from inland lakes and ponds will result from these activities," states the author. At the present time, the Fish and Wildlife Service has technicians in two foreign countries—Mexico and Peru—on Point Four fishery development projects. Other requests for assistance have come from Latin American countries and from Asia, including El Salvador, Venezuela, Liberia, and Lebanon, and as rapidly as project agreements

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can be negotiated and missions organized, the fishery phase of the technical cooperation program will be expanded, depending on funds the Congress makes available.

The Preservation and Utilization of Marine Fish in the United Kingdom, by G. A. Reay, Food Investigation Memoir No. 675, 16 p., illus., printed. Torry Research Station, Department of Scientific and Industrial Research, Aberdeen, Scotland, 1950. The report is divided into three parts: pelagic fish (mainly herring), demersal fish ("white" fish, including cod, haddock, and related species), and mechanization. A brief description is given of the various methods used at present to utilize the herring, and of the production goals for 1951 and 1952. Since the fishing fleet has had to go farther away in order to obtain the amount of "white" fish needed, the problem of landing good-quality fish has increased. Investigations have and are being carried out to maintain the quality of fish from distant banks. The use of machines in the cleaning, filleting, and freezing of fish ashore and at sea is discussed, and what research is needed for improvement on the present machines.

Primer Congreso Nacional de Pesquerias Maritimas e Industrias Derivadas (First National Congress on Maritime Fisheries and Industries): Tomo I (Book I) - Recomendaciones (Recommendations), 102 p. and Tomo II - Trabajos Presentados (Papers), 323 p., illus.; printed in Spanish. Imprenta Y Casa Editora (Coni), 684 Calle Peru, Buenos Aires, Argentina, 1950. The First National Congress on Maritime Fisheries and Industries was held at Mar Del Plata October 24-29, 1949. These books represent the published proceedings of that meeting. Book I contains the recommendations of the Congress on various aspects of the fisheries and Book 2 presents the papers which were delivered at the meeting on various fisheries subjects.

Salary Stabilization—What It Is and How It Works, 8 p., processed. Office of Salary Stabilization, Washington 25, D. C., 1951, October 4, 1951. Salary stabilization is explained in this bulletin. Included are discussions on why it is necessary, who is affected, why it was created, regulations that have been issued to date, increases permissible without prior approval, and when prior approval is needed for increases. Salary stabilization affects people employed in executive, administrative, and professional positions, as well as outside sales personnel, who receive salaries or other compensation.

(South Africa) Fishing Industry Research Institute (Third Annual Report of the Director, Cape Town, Union of South Africa for 1st April 1949-31st March 1950), 7 p., printed. This is a summary of the investigations of the Institute on the canning of pilchards, spiny lobsters, snoek; and research on fresh stockfish, salted and dried fish, and fish and spiny lobster meal. The inspection of spiny lobsters for export is under the jurisdiction of the Institute, which also makes analyses of and inspects the fish meals and oils and of the salted fish produced in the Union.

The State of Food and Agriculture—Review and Outlook, 1951, C51/20, 90 p., printed. Food and Agriculture Organization of the United Nations, Rome, Italy, 1951. Reviews the past and also appraises the outlook for the immediate future of food and agriculture in the world. A review of the status and outlook for the fisheries of the world are also included in the various sections which make up this report. The booklet is divided into six main sections: World Review and Outlook; Review and Outlook by Regions; Review and Outlook by Commodities (includes fisheries products and fats and oils); Tools of Production (includes fisheries equipment); Appendix; and Charts.

Statistic Tables of Fishing Vessels, 1950, General Report No. 3, 247 p., graphs, printed, in Japanese and English (not available for general distribution. Japanese Fisheries Agency, Tokyo, Japan. This is the third annual report which lists data on the various types of Japanese fishing craft as obtained by a fishing-vessel registration system. Statistics cover types of gear, fishery, craft, and principal prefectures, together with comparisons for former years.

(Sweden) Annual Report for the Year 1949 and Short Papers, Report No. 31, 162 p., printed. Institute of Freshwater Research Fishery Board of Sweden, Drottningholm, 1950. Included in this book are two papers on fishing gear. The first ("The Fitness of Nylon Thread for the Manufacture of Fishing Tackle") is on the suitability of nylon for fish nets. In some test gill-net fishing, the nylon nets caught over twice the number of fish as compared with cotton nets of the same mesh. The second report ("Result of Impregnation Experiments") is on net preservation investigations. Many different chemicals and materials were tested and the irrelative merits analyzed. Tests were also made on the effect of different types of water in various inland lakes on the deterioration of the nets. Nets rot much faster in lakes rich in food than in lakes poor in food. The other papers deal with various phases of lake fisheries in Sweden.



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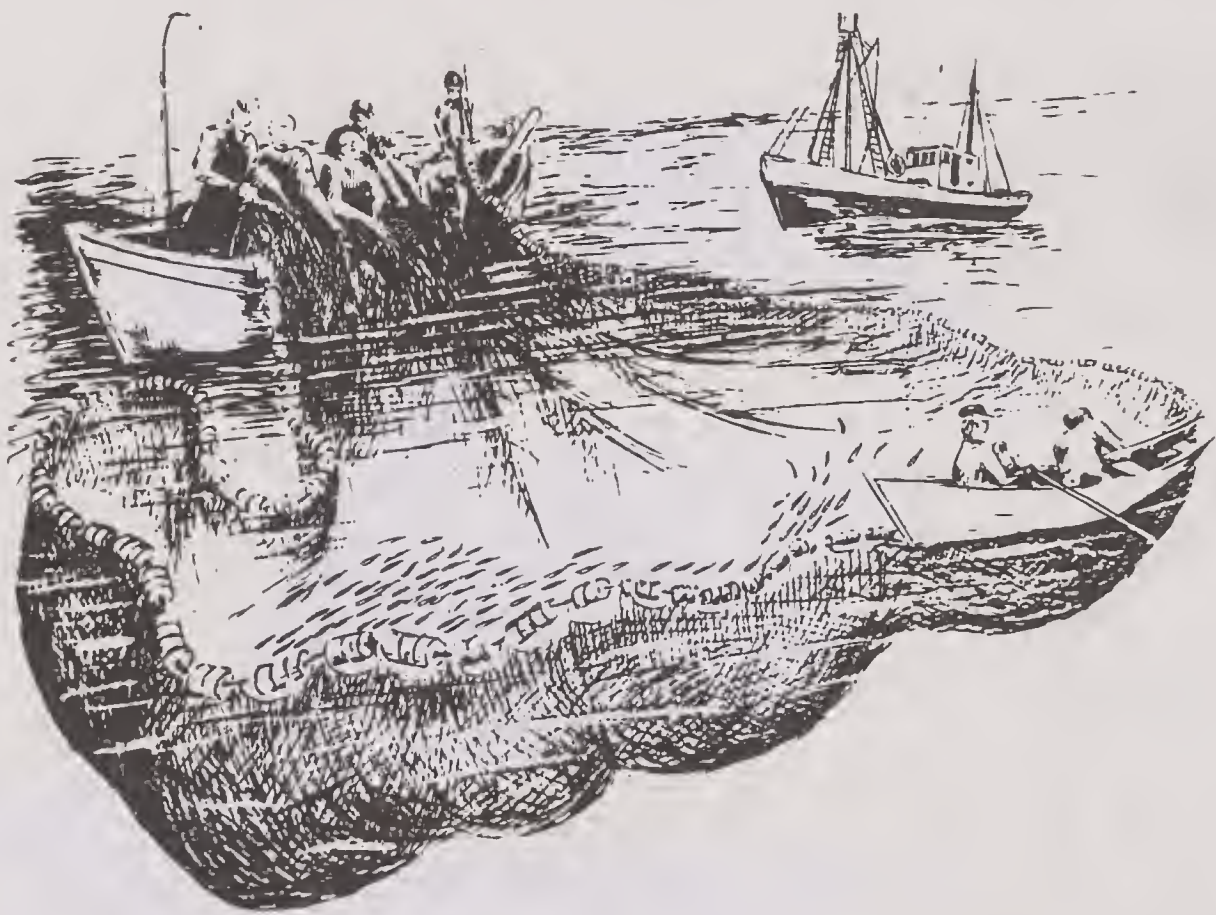
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ATLANTIC COAST MACKEREL PURSE SEINE

The method of fishing and style of purse seiners used in the mackerel fishery on the East Coast probably originated from the Mediterranean type, except that the operation has been mechanized and some improvements and modifications have been made in the vessels and gear. Improvements in mackerel fishing methods and gear continue to be made, but they differ somewhat among the individual vessels and different localities.



Fishery Leaflet 373, Atlantic Coast Mackerel Purse Seine, describes the operation and construction of the Atlantic Coast mackerel purse seiner. Detailed sketches of the gear and vessels used are included.

Records show that between 1815 and 1860 the mackerel fishery on the East Coast was essentially a hook-and-line fishery, although gill nets were introduced in some localities during that period. About 1860, notable catches of mackerel by the use of purse seines are on record. At the present time, about 75 percent of the East Coast mackerel catches are taken by purse seines, 7 percent in gill nets, and the remainder in traps and lines.

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